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DETECTION OF SUSPICIOUS CUSTOMERS ALGORITHM ON ANTI-MONEY LAUNDERING (AML) IN ETHIOPIAN BANKS

BY

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ACCEPTANCE

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ACCEPTED BY THE FACULTY OF INFORMATICS, ST. MARY'S UNIVERSITY, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN COMPUTER SCIENCE

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DECLARATION

I, the undersigned, declare that this thesis work is my original work, has not been presented for a degree in this or any other universities, and all sources of materials used for the thesis work have been duly acknowledged.

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This thesis has been submitted for examination with my approval as advisor.

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Feburary 2022

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DEDICATION

This thesis is dedicated to my father, who recently deceased and not seeing this adventure and unborn child.

ACRONYMS AND ABBREVIATIONS

AML: Anti Money Laundering

AML/CFT: Anti Money Laundering and Counter Financing of Terrorism

CBRN: Chemical, Biological, Radiological, or Nuclear

CFT: Counter Financing of Terrorism

CTR: Cash Transaction Report

CFT: Anti Money Laundering and Counter Financing of

DNFBPs: Designated Non-Financial Businesses and Professions

EFIC: Financial Intelligence Center (Ethiopia)

EFPC: Ethiopian Federal Police Commission

ESAAMLG: East and South Africa Anti Money Laundering Group

EU: European Union

FAG: Federal Attorney-General

FATF: Financial Action Task Force

FDRE: Federal Democratic Republic of Ethiopia

FIs: Financial Institutions

FIC: Financial Intelligence Center

FIU: Financial IntelligenceUnit

FRA: Financial Reporting Authority

FRBs: FATF-style Regional Bodies

FSRBs: FATF Style Regional Bodies

G7: Group of Seven

G20: Group of Twenty

IMF: International Monetary Fund

JCPOA: Joint Comprehensive Plan of Action

LEAs: Law Enforcement Agencies

ML: Money Laundering

ML/TF: Money Laundering Group and Terrorism Financing

NBE: National Bank of Ethiopia

NRA: Money Laundering Group and Terrorism Financing

NSTR: Non-suspicious Transaction Report

OECD: Organization for Economic Cooperation and Development

PEPs: Politically Exposed Persons

PCMLTFA: Proceeds of Crime (Money Laundering) and Terrorist

RBI: Reserve Bank of India

SARs: Suspicious Activity Reports

SDGs: Sustainable Development Goals

SNA: Social Network Analysis

STR: Suspicious Transaction Report

STRs: Suspicious Transaction Report**s**

TF: Terrorist Financing

TTF: Topical Trust Funds

UN: United Nations

USD: United States Dollar

WMD: Weapon of Mass Destruction

4AMLD: Fourth Anti-Money Laundering Directive

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ABSTRACT

Fuzzy Matching is a method that helps detect different text or strings that are approximately similar. Approximate String-Matching search is a process utilizing a fuzzy matching program, which returns a list of results based on likely relevance even though search argument words and spellings may not match. Exact and highly relevant matches appear near the top of the list. Subjective relevance ratings, usually as percentages, may be given. This study tries to facilitate the Anti-Money Laundering and Counter Financing of Terrorism (AML/CFT) to identify caution type lists and detect suspicious customers who have duplicate Names and match the name using Fuzzy matching algorithms. The general objective of this research is to experiment with the existing algorithm and propose the best one that can identify and detect Suspicious or customers on AML Hence to determine the result of the customer, 421, 2010 federal government, 109, 2010 public enterprises, and 1049, 2011 government, residents from each appointees' officials were chosen to complete a survey. Two algorithms (Levenstein Distance and N-gram string matching) were implemented to predict the best algorithm. Results of the N-gram search similar names based on the distance between each character and Levenstein Distance match not only the similar name but also recommends the names with the potential to have similarities.

Key Words: AML/CFT, Levenstein Distance, N-gram string matching, and Fuzzy Matching.

Chapter One

Introduction

1.1 Background of the Study

Money laundering is an activity that generates money using illegal activity then makes it a genuine source [1]. In addition, the researcher Kenton explained that Anti-money laundering (AML) is the laws, values, and measures agreed to control and avoid criminals from masking criminally seems gained from legally [2]. AML regulations require banks that issue a credit or accept customer deposits to follow up the rules that ensure they are following based on the bank standard, procedure, and check they do not have a connection laundering [3].

Banks, insurance companies, microfinance institutions, postal savings, and other associations are designated to the relevant law national Bank. Non-Financial private industries enclose real estate agents and brokers, dealers in precious metals or precious stones, lawyers, notaries, and other independent professionals may be designated [4].

Financial Intelligence Center was established under Article 21(1) by the Council of Ministers [5]. The objectives are to organize and avoidance for various ML/TF of terrorist attacks. The regulation is issued by the Council of Ministers, according to Article5 and 34 as it defines its power and Duties of the Executive Organs [6] then amended [7] to coordinate the various institutions involved in the fight against ML/TF [8].

Ethiopian Banks submit CTR and STR/NSTR every Monday up to Tuesday to the EFIC. They provide all cash deposits or withdrawals and remittances beyond or equal to Birr 300,000.00 or 150000 USD or its equivalent in other foreign currency based on the rules and regulations.

AML detection is one of the major problems in banks and it is a fierce country economy. Minimizing the number of money funds for trafficking can maximize their profit and sustainability and prevent the country money from illegally losing wages and Financing terrorism. For this reason, detecting the customer transaction free from AML is critical within the institution. Consequently, this study tries to assess the Fuzzy matching search detection of the Anti-Money Laundering caution type under Ethiopian Banks.

1.2 Statement of the Problem

The Money launderers will always find newer ways to use banks for illegal activities. The timely detection of laundering activities is the most challenging aspect in the implementation efficient AML program [9, pp. 2-7]. According to the data, the Risk and Compliance Department data false Positive, unorganized (partial) information provided by regulatory organ due to this various false-positive exist and Amharic information (names) provided by FIC have a big impact for the identification of the suspicious customer. In addition, the Core banking system's Detection and inspections of the suspicious Customer are not carried out properly. one of the issues they faced regarding the application *is* less detecter of the suspicious customer on the AML/CFT issue on the operational level of the bank-like a branch. The integrated application with core banking if it is an error on an operational level when data are field then an error message, they did not have a mechanism for delivering. Most of our Ethiopian banks have challenges in that most Ethiopian names are spelled differently because each customer spell and types the name by its ways of standard. In addition, some of the Local PEPs lists are missing grandfather names which makes the process hard for those provided by FIC.

Suspicious is someone or something uncertain or likely to be suspect. A suspicious customer believes the doubts and doubts the beliefs. A suspicious customer is a customer that involved in a suspicious and unusual transaction from its previous banking history. Reporting entities assess the suspicion accord1ing to a risk-based approach for customers' due diligence, real-time payment screening, transaction monitoring, and nature to identify changes in the respondent's transaction risk profile.

Shaikh *et al.* [10] suggested to other researchers need to focus on classifying suspicious customers' relations with people around them including the family members. Based on the reality and the survey it's better and crucial to identify the suspicious customer itself before focusing on the relative. The reason behind this is that it critical and necessary to give priority identification of the customer and advantageous and that is why this paper focuses on the detection of the suspicious customer itself. Shaikh A.K [11] mentioned that based on the rule set in an organization and identification, there is a probability that a normal customer can be a suspicious customer. Some rules are might not be included or pre-condition for identifying a customer suspicious or not. For example, one customer has more than 300,000.00 Birr transactions either daily or monthly. Based on EFIC such a customer may be suspicious but it may not be involved in ML/TF rather performing the Construction business. Liu *et al.* [12] indicate that different features need to be applicable for the detection of suspicious customers using suspicious activity. Though,

it is somehow related most researches are profess on suspicious transactions. However, suspicious transactions and suspicious customers might not be or are not identical. Suresh *et al*. [13] Imply that frequent transaction history and day-to-day activity won't be the baseline for tracing suspicious customers. Some frequent transactions may be related to business activity and operational flow. It does mean that such frequent activity is free, they must trace with different parameters for identification from suspiciousness.

This study tries to facilitate the AML/CFT to identify the sanction lists and detect suspicious customers who have duplicate Names and match the name using Fuzzy matching algorithms to identify non-exact matches of your target item those included by NBE and Ethiopian Finance Intelligence center.

Fuzzy Matching is a method that helps detect different text or strings that are approximately similar [14]. Approximate String-Matching search is a process utilizing a fuzzy matching program, which returns a list of results based on likely relevance even though search argument words and spellings may not match. Exact and highly relevant matches appear near the top of the list. Subjective relevance ratings, usually as percentages, may be given.

1.3 Research Questions

As the knowledge of the problems as stated, the study tries to assess the suspicious customer detection mechanisms to identify the attributes in Financial Institution of Ethiopian and seek to answer the following research questions:

- ✓ What features could help in detecting suspicious customers?
- ✓ Which suspicious customer detection approaches in Ethiopian Banks to fight Anti Money Laundering?
- ✓ Which algorithm is best practice and widely used for the detection of suspicious customers?

1.4 Objectives of the Study

The general objective of this research is to experiment with the existing algorithm and propose the best one that can identify and detect Suspicious customers on AML.

1.4.1 Specific objectives of the Study

The specific objectives of this research are to direct the financial institution by using the algorism to identify and detect similarly but are not the same Customer.

In addition, the specific objectives of the research are:

- ✓ To select a list of attributes that can help in detecting suspicious customers.
- ✓ To set parameters for detecting suspicious customers.
- ✓ To identify the name among the list of sanction lists used in the financial Intelligence Center to fight the Money Laundering and Terrorism Financing act.
- ✓ To experiment and to validate the best practice algorithm.
- ✓ Evaluate the effective detection practices and vulnerabilities resulting from money laundering and terrorist financing.
- ✓ To predict the best algorithm for the detection of such specious customer

1.5 Significance of the Study

The prime aspiration of this research is to minimize the gap of matching elements of text, strings, or entries on AML It will benefit a suspicious transaction and fight Terrorism that can be financed from suspicious Customer transactions using financial institutions. The banking sector fight against money laundering and the financing of terrorism. The sector needs supplementary mechanisms besides the effort they are trying to the stability of the financial system. The fuzzy matching algorithm will help and have a big significant role in the identification and detection the suspicious activities. Accordingly, the study tries to identify and propose the best fuzzy algorithm in the AML/CFT practices of financial Institutions banks in Ethiopia. Consequently, the study will have the following significances:

- ✓ Provide financial institutions to check the Caution list matching of the Account owner and a walking-Customer referring to the output data from the algorithm or integrated environment.
- ✓ Capability includes only but is not limited to the audit trail function of the financial institutions for tracking all suspected caution type terrorists from matching PEPs, UN, and EU sanction lists.
- ✓ Allows officers to capture non-duplicate customers' data into a single record at the time of account opening based on the algorithm integrity in the Core Environment.

- ✓ Fuzzy string matching can help to improve data quality and accuracy by data duplication and identification of false positives in the Banking, Insurances, and Microfinance sectors.
- ✓ A good fuzzy string-matching algorithm can help in detecting fraud within an organization by identifying the suspicious customer's previous transaction history.
- ✓ Based on my review, direct research or thesis are not conducted and focused on the areas. Therefore, it can also serve as a baseline data reference and initiative to conduct further studies in the future.
- ✓ To motivate other researchers in the field of AML detection mechanisms.
- ✓ Finally, affirm the necessary information required for prominent AML by motivating other researchers in the field of AML detection mechanisms.

1.6 Scope of the Study

The scope of the study will focus on the financial institution that is currently working and on the progress of AML/CFT implementation with their core banking or standalone system facing for the detection of suspicious customers. This research tries to identify the existing detect alleges of the financial institutions' AML/CFT Customer searching string and practices in light of regulatory requirements and international best practice algorithms by comparing the automated measure using selected evaluation tools. Although various detection mechanisms can be used to identify suspicious customers, for this thesis fuzzy matching algorithm techniques will be implemented.

1.7 Limitations of the Study

In the proposed research, the researcher limitations of related research area not conducted in the Computer science or the Engineering field locally as well as internationally for identifying two elements of text, strings, or entries that are approximately similar but are not the same as the issue and Fuzzy matching or Fuzzy search solution, and almost relatively new in the area. Most of the documents about AML/CFT research, journals, and articles are related to

- ✓ Global reception and implementation of AML
- ✓ Detecting money laundering Transaction with machine learning
- ✓ Identifying Suspicious Money Laundering Transaction-Based On Collaborative Relational Data Screening Model
- ✓ Machine learning methods to detect money laundering in the Bitcoin blockchain in the presence

of label scarcity

- ✓ Anti-Money Laundering Software Framework for Ethiopian Banks and Financial Agents

In Addition, the researcher faced problems due to conducting wrong information due to interviews and filling questioners with the carelessness of response due to workload and another personal issue.

1.8 Organization of the thesis

The research organizes into Five Chapters. Chapter one provides the general background of the study and the introduction part of the study. The objective of the area with its focus is and benefit from its proposed solution. The second chapter deals with previously published journals, articles, and studies this thesis literature review includes those related to the Conceptual and Empirical studies. The third chapter is Methodology which is the center area of the research and elaborates the General approach and specific research design, the Data sources, Data processing of any kind, the proposed design solution, and how the proposed solution evaluation. Chapter four contains Experimentation and findings organized into subheadings. I also include an overview, experimental procedure, Actual work, and Discussion. Finally, the last chapter, Chapter five, presents the Conclusion and recommendations for the proposed study based on the findings.

Chapter Two
Literature Review

2.1 Review of Theoretical Literature

2.1.1 The IMF and the Fight against Money Laundering and the Financing of Terrorism: Conceptual Framework

IMF supports by finance and promoting the AML/CFT efforts on the member's countries because of the money laundering and terrorist financing having a fundamental impact and Based on the FATF [15]. FATF provides analysis and policy advice for the financing sectors to the wellbeing and integrity institutions and helps to increase operational effectiveness 20th years ago [15].

Money laundering is a practice for capitalizing assets from unknown funds, Criminal activities, and illegal sources. Almost all terrorist financing funds will support terrorist activities. Based on the two phenomena, the IMF responded to the expansion request from the international community for battling AML since 2000. In 2009 a donor-support trust fund agreed on supporting AML/CFT capacity development. Later in 2014, the IMF strategic direction for FACTSHEET-AML FINAL OCT 2017 after the Executive Board reviewed the Fund's AML/CFT.

2.1.1.1 A threat to economic and financial stability

Illegal activities are draining resources from the developed country and destabilizing effects on developing countries. Infective or weak attractive for moving funds undetected control and variance of national laws; jurisdictions will allow the money launderers and terrorist financier's deed the difficulty characteristic in the global financial system. That is the reason behind the strength of governance and tax/facial administration, FACTSHEET-AML FINAL OCT 2017, for the integrity and stability of the sectors, which helps countries become one in the global financial system.

2.1.1.2 International standards guide effective AML/CFT regimes

In early 1989, G7 join in Paris established the FATF with former members of 37 intergovernmental bodies to firm worldwide AML/CFT standards. The FATF supplied a universally applicable framework and international appliance criminal justice system case measuring, financial institutions, professional transparency legal bodies for non-financial sectors. The commendations were updated later in 2012. The effectiveness of AML/CFT system and the FATF Recommendation Assessing Technical Compliance revised methodology approved later 2013. In late 2014, the IMF Board authorized recommendations and assessment methodology and funds Belgium, Norway, Spain, Australia, and Malaysia, the joined staff, in the first mutual evaluations conducted under the revision. The G7 and G20 have supported initiatives to address corruption and cross-border tax evasion [FACTSHEET-AML FINAL OCT 2017]. These leads, Italy and Canada for the currently directing assessments, of Mexico and Colombia to introduce the duty in China.

2.1.1.3 The IMF's role in AML/CFT efforts

In the past 15 years, AML/CFT policies helped local and international by IMF. IMF provides development programs, estimating AML/CFT standards, and financial integrity Advice. In 2004, the Executive Board decided that the Capacity building and the valuation of AML/CFT as part of IMF work. Later in 2014, after the board review, the Fund's AML/CFT strategy encouraged staff to carry on for the financial integration observation and assurance to achieve program objectives for Fund-supported programs.

At the first of TTF, IMF launched a donor-supported trust fund for the IMF's currently existing and AML/CFT finance capacity Development in 2009 [16]. However, the TTF's first phase ended in April 2014. Later in May 2014, a new five-year phase started and was donated by (France, Japan, Luxembourg, the Netherlands, Norway, Qatar, Saudi Arabia, Switzerland, and the United Kingdom).

They vouched for more than $25million for supporting and carrying its success and the continuing high demand for capacity development in this area. The contribution to the TTF has helped deliver $6.5 million [16] for indirect technical assistance and training to more than 40 recipient countries. [FACTSHEET-AML FINAL OCT 2017] [17].

[1] https://www.imf.org/en/About/Factsheets/Sheets/2016/08/01/16/31/Fight-Against-Money-Laundering-the-Financing-of-Terrorism

2.1.2 The United Nations

The UN was the first international organization to undertake significant action to fight ML [18]. The Global Program against Money Laundering (GPML) is the program that operates to struggle with money laundering by the UN, which is part of the UN Office of Drugs and Crime (ODC).

In 2015, the 17 SDGs requested the action of developed and developing-in global partnership for the 2030 Agenda. In 2030, SDG target 16.4 members states decide to minimize the illegal flows, strengthen and combat all forms of crime [19].

2.1.2.1 Money Laundering

Article 3.1 in 1988, Money laundering has been addressed in the UN, Vienna, and describing Money Laundering as the change or transfer of items to a person or person who has a relation that who is involved in illegal actions [20].

The Three Stages of Money Laundering:

I. **Placement**: It is the first stage of money laundering, whereby dirty money is deposited into financial systems. The sources are illegally acquired funds through theft, bribery, corruption, and financing criminals. It is the stage for moving from its sources "washed" and hidden into a legitimate financial system, such as offshore accounts.

II. **Layering/ Extraction**: It is the second phase and a complex web of transactions movement in the financial system, usually via offshore techniques. It is the stage that the criminal makes it challenging for authorities to detect laundering activity. Layering is a complex element in the process. Its purpose covers the source and ownership of the dirt money in the financial transactions.

[2] https://www.unodc.org/unodc/en/money-laundering/global-programme-against-money-laundering/.html

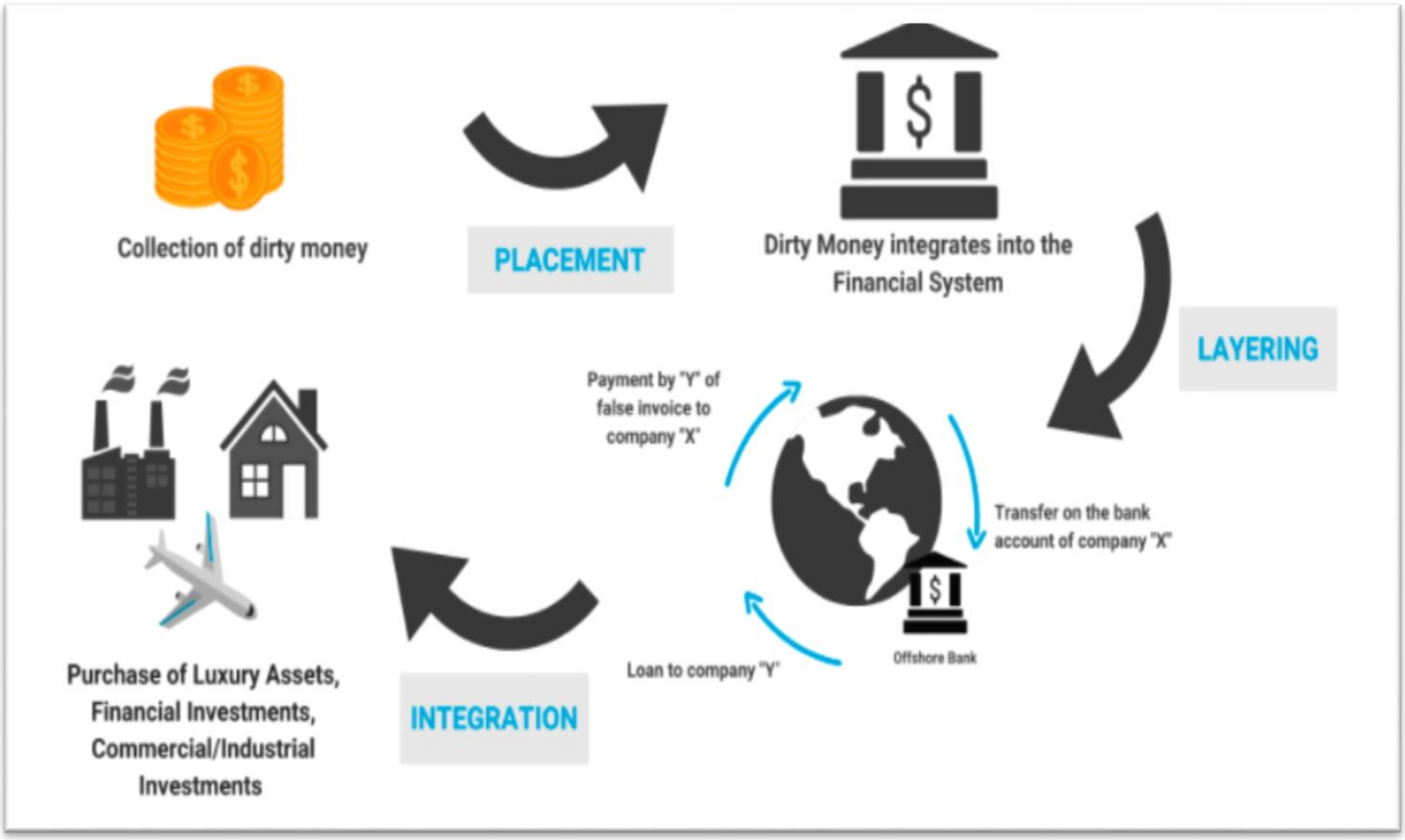
[3] https://www.unodc.org/unodc/en/money-laundering/overview.htm

III. **Integration**: the third and final of 'dirty' money is financing with real estate Construction. Once the 'dirty' money has been placed and layered in the financial system economy, the funds will recognize as 'legal tender. This money is then circling with a criminal with what appears to be a legitimate source. At this stage, it is too difficult to distinguish between legal and illegal wealth. It is very challenging to arrest them without evidence from the previous phases. It is important to note that these stages are usually used interchangeably in reality.

2.1.2.2 Money Laundry Cycle

The Money Laundry cycle is divided into three stages, some stages could be into one another, or several phases repeat several times.

Figure 2.1 Money Laundry Cycle



Source: UN, Office on Drug and Crime

2.1.2.3 Terrorist Financing

Terrorist financing and similar activities are financed by the terrorist organization for a national and international security threat. Terrorist organizations' finance sources are funds from either illegal sources (like kidnapping for the deal, Drug trade, weapon trafficking) or genuine sources (like charitable organizations and profits from businesses) [21]. The terrorist financing process is typically linear, and the money generated is used to propagate terrorist groups and activities.

Typical sources of financial support for terrorist financing include

- Direct donations by individuals and organizations;
- Use of charities and non-profit organizations; and
- Criminal activity. Direct donations:

It can be divided into the following stages:

I. **Collective/ Raise**: funds can be from fundraising appeals in their local communities like neighborhoods, places of worship) or donating without knowing its purpose by broader appeal via social media and crowdfunding sites, Charities, and non-profit organizations. Some funds collected from drug trafficking, fraud, cybercrime, and white-collar crimes are usual illicit activities for terrorist financing.

   Terrorists are inhabiting non-cash assets and resources. Such as antiquities, crude oil, natural gas, minerals, precious metals, and stones. Then they will be monetized, for example, via covert or black market sales, to provide funds for the terrorist organization's daily use. Those black markets may operate commonly outside of the territories of the countries where the terrorists locate.

II. **Storing**: the funds manage using majority cash storage and other accounts transactions, prepaid cards, expensive commodities such as art/antiquities, oil, agricultural products, precious metals, and gems, and used vehicles and Cryptocurrencies.

[3] https://www.unodc.org/unodc/en/money-laundering/overview.html
[4] https://www.stpaulschambers.com/stages-of-money-laundering-explained/

III. **Moving**: the most common mechanisms for moving values are using the banking and financial sector, informal value international money transfer systems (hawala), foreign exchange houses, remittance sector such as licensed Money Service Business (MSB), bulk cash trafficking, running high-value commodities such as oil, art/antiquities, agricultural products, precious metals and gems, and used vehicles, cryptocurrencies.

IV. **Using**: Terrorists use funds for

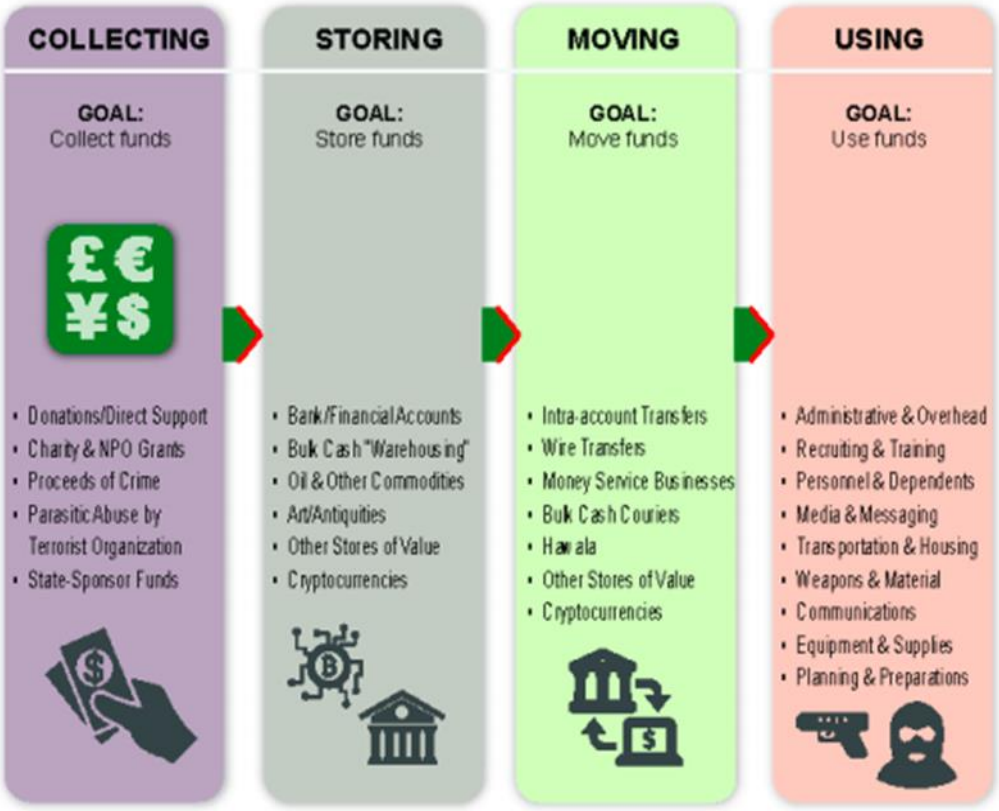
- ❖ Terrorist organizations: for the expense of weapons and material, broadcasting the terrorist attack on media and messaging, recruitment and training of terrorists, financial support for personnel and family members of the group, purchasing of communications equipment, illegal trafficking transportation, corrupting activities, buying housing, planning and mission preparation to commit terrorist acts

- ❖ Foreign fighters: travel illegal services, providing fake passport/visa costs, outdoor/survival prohibited equipment, weapons, and combat training.

- ❖ Lone actors and small terrorist cells: purchasing and rented weapons and materials, vehicles, spending to provide for their foods, and shelter, for having communications devices those not allowed having in individual level, transport and any procurement requirements for terrorist plots.

[5] https://www.oecd.org/tax/crime/money-laundering-and-terrorist-financing-awareness-handbook-for-tax-examiners-and-tax-auditors.pdf

Figure 2.2 Terrorist financing process



Source: OECD (2019), Money Laundering and Terrorist Financing Awareness Handbook for Tax Examiners and Tax Auditors, OECD, Paris

2.1.2.4 Proliferation Financing

Proliferation increases in type and financing for nuclear, radiological, chemical, or biological weapons, missiles, rockets, equipment, and technology. This sensitive material and technology are also become accessible by terrorists who are capable of pursuing CBRN capabilities.

There is no international meaning for proliferation financing so far but described as providing or financing financial services and transit for the transfer and export of nuclear, chemical, or biological weapons for their means of transition and related materials. It involves many financial services and the financing of skill in proliferation-sensitive terms but could also include other individuals or group financial support to participate.

[5] https://www.oecd.org/tax/crime/money-laundering-and-terrorist-financing-awareness-handbook-for-tax-examiners-and-tax-auditors.pdf

The financial elements of a WMD program are divided into three stages:

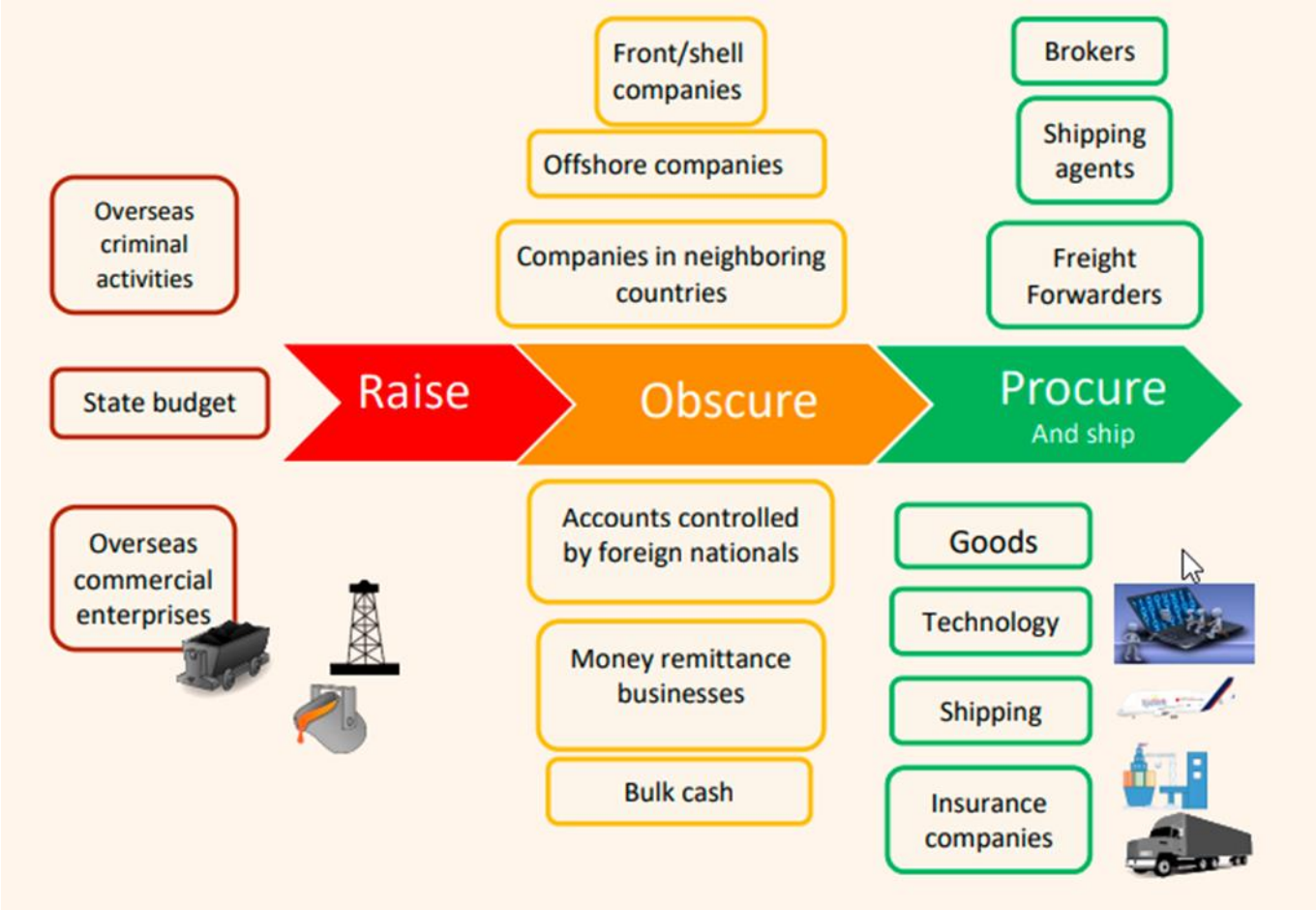
I. **Raising of funds**: during this stage, funds, donations, domestic budget, networks overseas, or criminal activity (conducted by or on behalf of state actors) are some for the proliferator funds raises programs, perhaps supplemented with funds raised.

II. **Obscuring of funds**: in this phase, the proliferator transfers funds collected in different months and deposits them into the international financial system. JCPOA broad section like North Korea and Iran, state the reason implementation. If the country is not in sanction, the fund will be easy to input into the system. Proliferation financing involves countries in sanction list or control of a foreign nation excluding Iran and North Lorena. Later will be combined with the use of false documentation, which allows proliferators to avoid detection [22].

III. **Shipping of necessary items**: the proliferator uses these funds to pay for goods, materials, technology, and logistics needed for its WMD program in the international financial system. International FIs will be involved in the processing. Proliferation involves personal goods and parts that are used to develop weapons or missiles. It makes proliferation activities more challenging to detect [22].

[3] https://www.unodc.org/unodc/en/money-laundering/overview.html

Figure 2.3 Financing of



Source: FRA (2020), Financial Reporting Authority

2.1.3 Ethiopia Financial Intelligence Center

In the 2009 regulation, under Article 5-6 EFIC is established as the principal agency responsible for the prevention and combating of ML/TF. The EFIC is accountable for the delivery, demand, and analysis of the report from reaching institutions and performance of financial intelligence to law enforcement actions. The establishment to access the financial information and especially to the interpretation of such information. The EFIC is secretarial to the National AML/CFT Committee.

2.1.3.1 Powers and Duties of the center

Under proclamation [4], the center shall, without prejudice to its powers and duties specified under other provisions of

1. Assemble, accept, stock, inspection, evaluate, and distribute information concerning suspected money laundering and financing of terrorism under this proclamation;
2. Progress on public awareness and understanding related matters and effects to money laundering and financing of terrorism.
3. Support research relating to the source, Structure of commission, type, behavior, and impact of money laundering and financing of terrorism and proposed solutions to the relevant bodies;
4. Based on the obligation provide in the proclamation, guidelines to assist financial institutions and designated non-financial businesses and professions, to comply without partiality to the power of the National Bank to regulate financial institutions;
5. Proclamation 780/2013, stated to launch appropriate information management systems to ensure the protection of sensitive and confidential information disclosed to it;
6. The number of recommendations suggested to law enforcement bodies, the number of criminal activities investigations and trials based on those referrals, and the number of international requests for guiding to maintain comprehensive statistics on its operations, including the number of reports received pursuant;
7. Based on [4] its analysis and assessment, the center has reasonable grounds to suspect the information from an investigation or prosecution of offense;
8. Conduct examinations of financial institutions and selected non-financial businesses and professions either independently or in partnership with the regulatory authorities;
9. Follow up battling money laundering and terrorist financing and the application and organize the actions of other governmental institutions;
10. Handling other financial triggers

[6] http://www.fic.gov.et/en/docs.html

2.1.3.2 The Legal and Regulatory Framework

Ethiopia has a well-defined AML/CFT legal framework on Proclamation 780/2013 that is the standard regulation for AML/CFT of Money Laundering and Terrorism Financing. Besides the Proclamation, other regulation also plays the contributes to the AML/CFT efforts such as the Anti-corruption Declaration, the Banking laws, and other financial related regulations, the Criminal Code, the Customs Declaration, the Public Servants Assets Statements Declaration, the Federal Police Declaration, and the Financial Intelligence Centre Establishment. Others include the Council of Ministers under [23] for the freezing of terrorists' resources and directives governing both the financial institutions and DNFBPs issued by the EFIC [24].

In 2005 the revised penal code, money laundry banned with amendments to the law in 2013 through Proclamation No. 780/2013 of the Prevention and Suppression of Money Laundering and Financing of Terrorism. The current AML/CFT framework came into presence in 2009. EFIC was established as an independent government body to oversee the AML/CFT activities. Ethiopia has also accepted the UN Vienna convention in contradiction of drugs and psychotropic elements and crime convention, IGAD mutual legal assistance convention, and approved several local and universal appliances that directly support AML/CFT. In addition, the following are other existing laws that directly and indirectly contribute to the AML/CFT legal regime in Ethiopia (Tu'emay Aregawi Desta, 2013) [25].

2.1.3.3 Institution Arrangement

Several institutions support both local law and regulations and international guidance for battling AML/CFT in Ethiopia.

2.1.3.3.1 The Ethiopian Financial Intelligence Centre

In 2009, under the regulation of Article 5-6, the EFIC established the responsibility of preventing and combating ML/TF [26]. EFIC reports institutions for financial intelligence after analysis to the law enforcement agencies to have record access to financial information and especially to the clarification of such facts. EFIC is the secretariat to the Nation AML/CFT Committee.

[6] http://www.fic.gov.et/en/docs.html

[7] http://www.fic.gov.et/Content/Files/NAML-Policy.pdf

2.1.3.3.2 The Supervisory/Regulatory Authorities

Supervisory/Regulatory Authorities contribute a fundamental role in the AML/CFT regime in Ethiopia. [4] defines the National Bank of Ethiopia as empowered by law to regulate financial institutions and planned non-financial business or a government organ. The primary responsibility is to be aware of reporting institution about the policy and make sure that the financial institution is under overview and same line with the internal procedure.

However, the EFIC supervises and reports institutions, supervision, and delegates the supervisory function to a supervisory authority. EFIC is currently the AML/CFT supervisor of financial institutions. The EFIC and NBE currently supervise a risk-based approach and have a comprehensive supervisory framework in addition to clear supervision policies, procedures, manuals, tools, and structures.

2.1.3.3.3 Law Enforcement Agencies

EFPC and police bureaus are institutions under the LEAs. Law enforcement agencies are accountable for the examination and the center crimes of ML. The NRA finds that several ML examinations in crimes include fraud and corruption cases, which are limited based on the ML investigations and few compared with the illegal activities found in crimes. It implies the Enforcement Agencies need further action and dedication and strengthen themselves for documentation and exploration.

2.1.3.3.4 Prosecutorial Authorities

ML and TF criminal trial handled by the legal offices in the ten regional states and two cities and in addition in Ethiopia the FAG. The NRA found that although there have been several prosecutions in fraud and corruption cases of ML, the number of actions and principles of ground crimes are few compared with ML prosecutions and principles. Implies, strengthen the identification and detection of the crimes.

2.1.3.3.5 The Judiciary

The Supreme High and subordinate courts form in constitutional support of The FDRE Judiciary, which includes federal and regional levels. Interpret and applying the law under the constitution is the role of the

judiciary institutions. According to the NRA, there has been little or no training for judicial officers to familiarize themselves with AML matters. Arguably, most judicial officers have limited knowledge of AML/CFT issues. It is notwithstanding, the judiciary has played a vital role in developing jurisprudence in this area through court decisions in mainly the corruption and fraud cases. Judiciary was part of the crucial stakeholders that consulted the drafting [4]. The policy, hence, urges the concerned authorities to prioritize the retreatment of the judicial authority.

2.1.3.3.6 The National AML/CFT Committee

Ethiopia established the National AML/CFT Committee to fill the gap for the information allocation and the smooth coordination and close follow-up for effective AML/CFT. In August 2014, the Committee was earlier established and again reinstated lately in April 2019.

2.1.3.3.7 Other Competent Authorities

Defines [4] competent authorities to include the EFIC, national Intelligence and Security Service (NISS), the police, public prosecutor (Federal Attorney General) or other investigative body, the Ministry of Revenue, the Customs Commission, or any concerned regulatory bodies. National Rifle Association recommends primary priorities AML/CFT issues and embraces their role and other subsidiary laws in the international AML/CFT standards.

2.1.3.4 Illegal Hawala Services

Illegal hawala services are the sources of crime and a means of source for other non-legal services. Banks, international headwalls service, Ethiopian Airlines, and Ethiopians Logistic services are the only legal bodies under NBE recognition.There are two types of illegal hawala services crime groups. The first group lives outside the country, selling with exchange rate illegally and collecting money from who need to send money to Ethiopia by illegal hawala service ruled by individuals/groups. The other groups, insiders, generate profit by collecting service charges from hawala senders and selling the foreign currency to outside buyers. Those Parties are Ethiopian citizens and have warranties living in the country.

[7] http://www.fic.gov.et/Content/Files/NAML-Policy.pdf

[8] http://www.fic.gov.et/Content/Files/Illegal%20Hawala%20Service.

The unclassified another group who are the player lives in Ethiopia and has an importer's industry with foreign currency. These individuals are using their sister company by deposit with foreign currency sales and buying exchange rate. Based on studies implies both structures, most illegal money sends from dense Ethiopian communities. This money transfer in two ways two causes; the first one is by people leaving the country by human trafficking and the second one, is they are a legal contract whereas their license expired and non-authenticated residence of the country.

2.2 Review of Related Empirical Studies

The FATF helps countries create an FIU handling and managing the data share for law enforcement agencies and between their institutions. Government lawmaking and directives by each country's FIU make financial institutions the first line of defense against money laundering and terrorist financing.
Law enforcement possibly alerts the criminal activities by reporting suspicious activities to the government via STRs and suspicious activity reports (SARs).

Regarding the international studies, Suresh *et al*. [13] have implied that they use the FIU pit rule to declare whether the suspicious transaction is suspicious or not. They also mentioned that the procedure is time-consuming it is not many best approaches for the identification of illegal activity. Based on this scenario the fuzzy matching algorithm will fill the gap either time consuming or identification of the suspicious activities. The fuzzy matching will print the most similar character among the given parameters. Depending on the parameter(percentage) set for the searching it will display a few lists of a similar name which is not consuming the time for generating names. In addition, the fuzzy matching algorithm will help for the detection of such suspicious names among the list of sanction names.

The researchers critically analyzed the fraudulent behavior, taking into account the fields of performance that relate to the different types of credit card fraud identified in this thesis and evaluating the associated accurate references. As the next step in this research program, the focus will be the implementation of a 'suspicious' scorecard on the actual data set and its evaluation.

2.2.1 Related Empirical Studies in Ethiopia

ESAAMLG establish to combat money laundering by implementing the FATF Recommendations [27]. It includes increasing the human resource and institutional capacities on money laundering, organizing concerns and battling money laundering with international organizations, reviewing developing regional typologies, and coordinating technical assistance where it is required.

The ESAAMLG main office is settled in Dar es Salaam, Tanzania [27]. A few years later ESAAMLG became FATF members in June 2010 [27]. ESAAMLG has a permanent member from south and eastern Africa. Such as Angola, Botswana, Ethiopia, Eswatini, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Rwanda, South Africa, Seychelles, Tanzania, Uganda, Zambia, and Zimbabwe.

There is no such significant research published so far yet but regarding the local study, Yalemie [28] has critically examined the data collection, analyzing, investigating, and reporting cash and suspicious transactions from different Ethiopian Banks and Financial Agents, and reporting to FATF. Achieving the objectives required developing a computer-based AML mechanism for Ethiopian Banks and Financial Agents by designing a software framework for cash and data handling cash and suspicious detection avoidance report and remittance monitoring, and cash data validation.

As a result, it reveals that FIC needs to use the AML software framework to develop a fully integrated solution to reduce ML attacks and improve the delivery time of the service for data collection, analysis, and reporting. As the next step in this research program, the researcher suggested developing integrated data mining framework for the system performance analytics for EFIC. This paper proposes an algorithm that can be integrated or can be applicable for desktop applications for the identification of fuzzy names from the given sanction list

2.3 Summary and Knowledge Gap

Shaikh *et al.* [10] mentioned that their literature provides no effective and appropriate solutions that could aid in identifying relationships between suspicious customers. Based on their scenarios this paper needs to focus the fuzzy matching on the identification of suspicious customers amend the sanction lists. In addition, instead of discussing a model for identification suspicious customers, they focused on the relation between suspicious customers using SNA.

In addition to that, they propose future works on analysis and predictive analysis on suspicious customers and identify relationships and associations of suspicious customers with other persons such as family relatives and friends. Therefore, the proposed solution and their future works are focused on relation or association with the suspicious customer instead of prioritizing the identification or detection of the suspicious customer itself. Detection of suspicious customers is a vital issue in the Banking industry. Identification or Detection of the suspicious customer will pave the way for identifying the customer itself and related personnel around him or have connection suspicious activities.

Chapter Three

Research Design and Methodology

3.1 Overview

Generally, research methods can be classified into Quantitative and Qualitative Methods. Qualitative methods help to understand the detailed reasons for a particular behavior. The quantitative methodology shows the relationships in variables and classifies or counts features. This method can't provide a deep understanding of a case the study was designed to experiment with the detection of suspicious customers in AML. This chapter discusses and answered; the general approach, how the research was designed, what are the data source and sampling, how the data collection method and procedure follows, which experimental process and tool will use, and finally the validity and ratability of the sample data.

3.2 General Approach

There are four main types of quantitative research designs: Descriptive research, Correlational research, Experimental research, and Quasi-experimental. This research follows a Quantitative Experimental approach to provide the best fuzzy matching algorithm for the detection of a suspicious customer on AML.

3.3 Specific research Design

In this research design, the experimental evaluation is often divided into two phases. In an exploratory phase that the researcher is taking measurements that will help identify what are the questions that should be asked about the system under evaluation. There are three primary types of experimental design:

- Pre-experimental research design
- True experimental research design
- Quasi-experimental research design

Pre-experimental research design: A group, or various conditions, are kept under observation and there is no control condition and random assignment of participants. Pre-experimental research further in three types: One-shot Case Study Research Design, One-group Pretest-posttest Research Design, and static-group Comparison

True experimental research design: participants are assigned randomly and control over the manipulation of an independent variable.

Quasi-experimental research design: The word "Quasi" indicates similarity. A quasi-experimental is similar to an experimental, but it is not the same [29]. It is a field setting where an assignment is either irrelevant or not required [30].

3.4 Population and Sampling

FDRE Top Government Official, Government and Public Enterprises Appointees lists of data from 2010 and 2011, about 1,579 Appointees officials' data has been used.

The study focuses on the government and Private banks since the AML is being implemented only in the banking sector. Hence, financial institutions like Insurance companies, Saving and credit cooperatives, Microfinance institutions, Capital goods financing companies are not participating in the survey because they are implementing or the FIC directive exclude them from AML/CFT report.
Sampling is a method of methods of selecting individuals from a population. A sample helps to make decisions about the population [31].

Some of the samplings are;

a) To determine the result of the customer, 421, 2010 federal government, 109, 2010 public enterprises, and 1049, 2011 government, residents from each appointees' officials were chosen to complete a survey.

b) To evaluate string matching, a random sample of one government official appointee's name in the lust, then checked the matching existing name from all data within the selected full name to its fuzzy match.

c) Those who participate in sampling are attached with fuzzy.csv format. To experiment the and predict the fuzzy algorithm, Bizunesh Meseret Tegegn, samples are chosen at random, then every 1578 appointee officials are tested.

d) Include at random, and Yebegaeshet Nahusenay Fentahun, in addition to the appointed officials who were selected for the sample and to participate in an experiment.

3.5 Data Collection method and Procedure

Information has been gathered from either primary source of data. The primary data extract information directly from the Risk and Compliance Department, Berhan Bank. Experimented has to be made on 1,579 official appointees collected from a sample financial institution. The reason behind choosing these financial institutions is the working areas and availability of much willing staff from the department. The experiment has been proceeding from the official appointee and the experiment along with this list of names. The experimental results will be discussed under section 4.7.

3.6 Experimental Process and Tools

Experiments are used to study causal relationships. Manipulation of one or more independent variables and measure their effect on one or more dependent variables. Experimental is full of rules to check the suggestion systematically [32].

There are five key steps to experiment:

1. Changing the data to .csv file to change the collected data your variables and how they are related
2. Preparing hypothesis
3. Enterprise experimental conducts to an independent variable
4. Assign subjects to groups, either between-subjects or within-subjects
5. Plan the measuring strategy for the dependent variable

This thesis covers some of the algorithms Mehul Gupta [33] explained fuzzy matching algorithm (not exactly equal but the same strings) string matching algorithms which include:

- **N-Gram-based string matching:** N-grams of texts are extensively used in text mining and natural language processing tasks. They are a set of co-occurring words within a given window and when computing the n-grams interchange one word forward to the other [34].

If X=Num, words in a sentence, K=n-grams and K would be:

$$Ngrams_K = X - (N - 1)$$

N-gram is nothing but a set of values generated from a string by pairing sequentially occurring ’n’ characters/words. For example, n-gram with n=2 for ‘abcd’ will be ‘ab’,’bc’,’cd’ [34].

Similar to the example above, the code below generates n-grams in python.

Figure 3.6 N-grams Algorithm

```
import re

def generate_ngrams(text,n):

    # split sentences into tokens
    tokens=re.split("\\s+",text)
    ngrams=[]

    # collect the n-grams
    for i in range(len(tokens)-n+1):
       temp=[tokens[j] for j in range(i,i+n)]
       ngrams.append(" ".join(temp))

    return ngrams
```

Source: By Kavita Ganesan / AI Implementation, Text Mining Concepts

- **Levenstein Distance:** It was originated by Vladimir Levenshtein. This is also known as the Edit distance-based algorithm as it computes the number of edits required to transform one string to another [35].

  The formal definition of the Levenshtein distance between two strings [Math Processing Error] and [Math Processing Error] can be seen as follows:

$$\operatorname{lev}_{a,b}(i,j) = \begin{cases} \max(i,j) & \text{if } \min(i,j) = 0, \\ \min \begin{cases} \operatorname{lev}_{a,b}(i-1,j) + 1 \\ \operatorname{lev}_{a,b}(i,j-1) + 1 \\ \operatorname{lev}_{a,b}(i-1,j-1) + 1_{(a_i \neq b_j)} \end{cases} & \text{otherwise.} \end{cases}$$

  Where *[Math Processing Error] 1(ai≠bj)* denotes 0 when *[Math Processing Error] a=b* and 1 otherwise. It is important to note that the rows on the minimum above correspond to a deletion, an insertion, and a substitution in that order.

Figure 3.6 Fuzzy Algorithm

```
from fuzzywuzzy import fuzz
Str1 = "Apple Inc."
Str2 = "apple Inc"
Ratio = fuzz.ratio(Str1.lower(),Str2.lower())
print(Ratio)
```

Source: (February 6th, 201), Francisco Javier Carrera Arias

Levenstein Distance computes edits required to convert ‘Str1’ to ‘Str2’ by execution either Addition, Removal, or Replace characters [36]. Among some of the important fuzzy string matching algorithms, N-Gram-based string matching and Levenstein Distance algorithm are used for an experiment and to suggest the best fuzzy matching algorithm.

3.7 Validity

Validity is the measurement that asserts an instrument [37]. The measurement of whether the algorithm string distance output validates the extent to which the instrument actions are valid [38]. Items in the questionnaire had been prepared ale multiple questions. To ensure the validity of the items.

3.8 Reliability

Reliability refers to the extent that the instrument yields the same results over multiple trials. Internal consistency of items incorporated in the questionnaire has been distributed for six compliance management staff of two banks and checked the respondent level of awareness regarding the questions. The mean of each variable was computed and then the reliability was checked based on the mean.

Chapter Four

Experimentation and Finding

4.1 Overview

This chapter elaborates on different tools and scenarios used to experiment. The experiment reports the experimental findings of the experiment based on the methodology explained in Chapter three. With the data that experimented to be held in the algorithm. The Experimentation is conducted to justify the proposed problem of the statement using a fuzzy matching algorithm. To achieve the experiment Levenstein Distance and N-Gram based string matching algorithm to the main objective of considering to detect suspicious customers Suleiman *et al.* [39]. The Chapter will contain two parts, the first part of the chapter will present data presentation, experimentation procedure, actual work, and comparison of experimentation. The second part of the Chapter will present a discussion after the experiment.

4.2 Data Presentation

FDRE Top Government Official, Government and Public Enterprises Appointees lists of data from 2010 and 2011, about 1,579 Appointees officials' data was gathered from FIC released document from Berhan Bank, Risk and Compliance Department. Relevant attributes are included in each excel sheet to verify the similarities from the whole data and the data are preprocessed to be utilized by the experimented tool.

4.3 Experimental tools and programming language

In this experiment, different development tools are used tools such as anaconda Navigator, Python, Jupyter Notebook, and Spyder.

Anaconda Navigator

Anaconda Navigator is a desktop graphical user interface (GUI) included in Anaconda distribution which is a free Python environment developed by Continuum Analytics that is made for scientific computing [40]. It has its own preinstalled packages that help for data science, math, data-driven, and engineering. Anaconda Navigator launches applications and helps for easy management without installing conda packages, environments, and channels by its built-in applications. It works across Windows, macOS, and

Linux platforms. In this research Anaconda version, 2.1.1 is installed.

Python

Python is frequently used for website development and coding software, task computerization, data investigation, and data imagining [41]. Python is accepted by Non-technical researchers such as accountants and scientists because it is relatively easy to learn [42]. In this research Python, 3.7 is installed.

Jupyter Notebook

Jupyter is an essential tool in many data scientists' toolkits. Jupyter Notebook is the best choice for data analysis because it is easy to uses, prototyping, and experiments interactively, thus shortening the feedback loop from coding and seeing each result after computing [43]. In this research Jupyter Notebook, 6.4.5 is installed.

In addition, the following modules are used for the implementation:

- **Numpy**: It has advanced math functions and a rudimentary scientific computing package.
- **Pandas**: It provides a fast, communicative, and flexible environment to easily work with structured and time-series data [44].
- **sparse_dot_topn** is a package to compute two large sparse matrices and save only the top-n vector pairs [45]. It is a very helpful computation tool for Natural Language Processing to find similar strings based on cosine similarity for vectored strings.
- **TfidfVectorizer** uses as temporary storage in-memory vocabulary for the most regular words and hence computes a word occurrence frequency (sparse) matrix [46].
- **Time**: time access and conversions.
- **Fuzzywuzzy**: is a library of Python which is used for string matching. Fuzzy string matching is the process of finding strings that match a given pattern [47]. It uses Levenshtein Distance to calculate the differences between sequences.

4.4 Preventive Measures

In experiment two algorithm, N-Gram-based string matching and Levenstein Distance were conducted on the experiment. The N-Gram-based string matching and Levenstein Distance are selected because widely used in text mining and natural language processing tasks, a set of co-occurring words within a given word, and the distance between two strings is the minimum number of operations of the form respectively. They are used in many string matching problems.

To predict the best and most efficient algorithm five experiments with test scenarios are implemented:-

Table 4.4 Experimental Procedure for the fuzzy matching algorithm of suspicious customers on AML/CFT

Table 4.4 Experimental Procedure for the fuzzy matching algorithm of suspicious customers on AML/CFT	**Experiments**	**Algorithm**	**Test Scenarios**	**Attributes to be used**	**Instances**
	Exp - One	**N-Gram based string matching**	['similairity'] < 0.99999]	1579	1579
	Exp - Two	**N-Gram based string matching**	['similairity'] > 0.99999]	1579	1579
	Exp - Three	**Levenstein Distance:**	['Similarity_Scores']>=75] Matched_Names=get_matches("Bizunesh Meseret Tegegn",data['Names'])	1/1578	1579
	Exp – Four	**Levenstein Distance:**	['Similarity_Scores']>=70] Matched_Names=get_matches("Yebegaeshet Nahusenay Fentahun",data['Names'])	1/1578	1579
	Exp - Five	**Levenstein Distance:**	['Similarity_Scores']>=85] Matched_Names=get_matches("Yebegaeshet Nahusenay Fentahun",data['Names'])	1/1578	1579

4.5 Actual work

In this Section, Each experimental and test scenario will discuss one by one based on the attributes assign and the number, the experiment procedure, and its result will present.

4.5.1 Experiment I: - N-Gram based string matching

In this experiment, the similarities of the list of instances are tested with the test Scenario of matches_df [matches_df ['similarity] < 0.99999] scores of the attributes. Performing selection Algorithm to predicate before removing all exact matches.

From the result of experiment one; the sample scenario "Attribute one" one output from the total data values. The smallest, one, value with relatively the total is obtained based on Similarity scores < 0.99999 scores.

The output is in table form with four columns. The first column indicates the Index number that the first sample list found. The Second and the third are shown the similarities name predict by the algorithm with comparing the sample data on the left side and right side. The final Column two name with gives the similarity in digits

4.5.2 Experiment II: - N-Gram based string matching

In this experiment, the similarities of the list of instances are tested with the test Scenario of matches_df [matches_df ['similarity] > 0.99999] scores of the attributes. Performing selection Algorithm to predicate before removing all exact matches.

From the result of Experiment two: - the sample scenario "Attribute two" six output from the total data values. The value with relatively few from the total is obtained based on Similarity scores > 0.99999 scores.

The output is in table form with four columns. The first column indicates the Index number that the first sample list found. The Second and the third are shown the similarities name predict by the algorithm with comparing the sample data on the left side and right side. The final Column two name gives the similarity in digits.

4.5.3 Experiment III: Levenstein Distance

In this experiment, the similarities of the list of instance with the test Scenario of ['Similarity_Scores']>=75] matched_Names=get_matches ("Bizunesh Meseret Tegegn", data ['Names']) is the attribute or matching. Performing selection Algorithm to predicate for all exact matches.

From the result of Experiment three: - the sample scenario “Attribute one” six output from the total data values. In this algorithm, all similar name value with relatively the total is obtained based on Similarity_Scores >=75.

The output is in table form with four columns. The first column indicates the order from the most matches list in order. The second column shows the list of similar names those match with the attribute and the third is give us the similarity score between the lists of names with the sample attribute predicted by the algorithm. The final Column indicates the index position that the exact match name is found from the uploaded data.

4.5.4. Experiment IV: Levenstein Distance

In this experiment, the similarities of the list of an instance with the test scenario of ['Similarity_Scores']>=70] Matched_Names=get_matches ("Yebegaeshet Nahusenay Fentahun", data ['Names']) is the attribute or matching. Performing selection Algorithm to the predicate for all exact matches.

From the result of Experiment four: - the sample scenario “Attribute two” thirty output from the total data values. In this algorithm, all similar name values with relatively the total are obtained based on Similarity_Scores >=70.

The output is in table form with four columns. The first column indicates the order from the most matches list in order. The second column shows the list of similar names those match with the attribute and the third is give us the similarity score between the lists of names with the sample attribute predicted by the algorithm. The final Column indicates the index position that the exact match name is found from the uploaded data

.

4.5.4 Experiment V: Levenstein Distance

In this experiment, the similarities of the list of an instance with Test Scenario of ['Similarity_Scores']>=85] Matched_Names=get_matches ("Yebegaeshet Nahusenay Fentahun", data ['Names']) is the attribute or matching. Performing selection Algorithm to the predicate for all exact matches.

From the result of Experiment five: - the sample scenario “Attribute two” twenty-five output from the total data values. In this algorithm, all similar name value with relatively the total is obtained based on Similarity_Scores >=85.

The output is in table form with four columns. The first column indicates the order from the most matches list in order. The second column shows the list of similar names those match with the attribute and the third is give us the similarity score between the lists of names with the sample attribute predicted by an algorithm. The final Column indicates the index position that the exact match name is found from the uploaded data.

4.6 Comparison of experimentation

The experimental results of the study are compared by major statistics minimum, maximum, average, and variance of R2 and MSE values measured in each experiment. The summaries are presented in Table 4.6.

Table 4.6 Result of Comparison of Experiment

Scenario Sample	N-Gram based string matching							
	Experiment- one				Experiment- two			
		left_side	***right_side***	***similairity***		***left_side***	***right_side***	***similairity***
Bizunesh Meseret Tegegn	1148	Her Excellency W/ro Bizunesh Meseret	Her Excellency W/ro Bizunesh Meseret	0.903667302	136	HrE w/ro Bizunesh Meseret	HrE w/ro Bizunesh Meseret	1
					880	W/ro Bizunesh Meseret Tegegn	W/ro Bizunesh Meseret Tegegn	1
					881	W/ro Bizunesh Meseret Tegegn	W/ro Bizunesh Meseret Tegegn	1
					1147	Her Excellency W/ro Bizunesh Meseret	Her Excellency W/ro Bizunesh Meseret	1
					1917	W/ro Bizunesh Meseret Tegegn	W/ro Bizunesh Meseret Tegegn	1
					1918	W/ro Bizunesh Meseret Tegegn	W/ro Bizunesh Meseret Tegegn	1

Scenario Sample	N-Gram based string matching							
	Experiment- one				Experiment- two			
		left_side	*right_side*	*similairity*		*left_side*	*right_side*	*similairity*
Yebegaeshet Nahusenay Fentahun	917	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusenay Fentahune	0.958149814	916	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusenay Fentahun	1
	918	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusenaye Fentahun	0.920362402	926	Ato Yebegaeshet Nahusenay Fantahune	Ato Yebegaeshet Nahusenay Fantahune	1
	919	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegashet Nahusenay Fentahun	0.909860866	936	W/rt Menna Yebegaeshet Nahusnay	W/rt Menna Yebegaeshet Nahusnay	1
	920	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusnay Fentahun	0.900952816	1622	W/rt Mebba Yebegaeshet Nahusenay	W/rt Mebba Yebegaeshet Nahusenay	1
	921	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusenay Fantahun	0.8872504	1940	Ato Yebegaeshet Nahusnay Fentahun	Ato Yebegaeshet Nahusnay Fentahun	1
	922	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusenaye Fentahune	0.880382483	1948	Ato Yebegaeshet Nahusenaye Fantahune	Ato Yebegaeshet Nahusenaye Fantahune	1
	923	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegashet Nahusenay Fentahune	0.867942085	1958	Ato Yebegaeshet Nahusenai Fantahune	Ato Yebegaeshet Nahusenai Fantahune	1
	924	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusenai Fentahun	0.864021399				

Scenario Sample	N-Gram based string matching							
	Experiment- one				Experiment- two			
		left_side	*right_side*	*similairity*		*left_side*	*right_side*	*similairity*
	925	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusenay Fantahune	0.847292241				
	930	Ato Yebegaeshet Nahusenay Fantahune	Ato Yebegaeshet Nahusenay Fentahune	0.890968584				
	934	Ato Yebegaeshet Nahusenay Fantahune	Ato Yebegaeshet Nahusenay Fentahun	0.847292241				
	1942	Ato Yebegaeshet Nahusnay Fentahun	Ato Yebegaeshet Nahusenay Fentahun	0.900952816				
	1944	Ato Yebegaeshet Nahusnay Fentahun	Ato Yebegaeshet Nahusenay Fentahune	0.861222591				

Levenstein Distance												
Experiment- three				Experiment- four				Experiment- five				
	Similar_ Names	*Similarity_ Scores*	*index_po sition*		*Similar_ Names*	*Similarity_ Scores*	*index_po sition*		*Similar_ Names*	*Similarity_ Scores*	*index_po sition*
0	W/ro Bizunesh Meseret Tegegn	95	481								

Levenstein Distance												
Experiment- three				Experiment- four				Experiment- five				
	Similar_ Names	***Similarity_ Scores***	***index_po sition***		***Similar_ Names***	***Similarity_ Scores***	***index_po sition***		***Similar_ Names***	***Similarity_ Scores***	***index_po sition***	
1	W/ro Bizunesh Meseret Tegegn	95	1023									
2	Her Excellen cy W/ro Bizunesh Meseret	86	642									
3	Her Excellen cy W/ro Meseret Meskele	86	651									
4	Her Excellen cy W/ro Bizunesh Meseret	86	1262									
5	HrE w/ro Bizunesh Meseret	78	102									
				0	Ato Yebegaes het Nahusena y Fentahun	95	504	0	Ato Yebegaes het Nahusena y Fentahun	95	504	
				1	Ato Yebegaes het Nahusnay Fentahun	92	1033	1	Ato Yebegaes het Nahusnay Fentahun	92	1033	

Levenstein Distance											
Experiment- three				Experiment- four				Experiment- five			
	Similar_ Names	*Similarity_ Scores*	*index_position*		*Similar_ Names*	*Similarity_ Scores*	*index_position*		*Similar_ Names*	*Similarity_ Scores*	*index_position*
				2	Ato Yebegaeshet Nahusenaye Fentahun	92	1151	2	Ato Yebegaeshet Nahusenaye Fentahun	92	1151
				3	Ato Yebegaeshet Nahusenay Fentahune	92	1279	3	Ato Yebegaeshet Nahusenay Fentahune	92	1279
				4	Ato Yebegasheet Nahusenay Fentahun	92	1324	4	Ato Yebegasheet Nahusenay Fentahun	92	1324
				5	Ato Yebegaeshet Nahusenai Fentahun	91	1096	5	Ato Yebegaeshet Nahusenai Fentahun	91	1096
				6	Ato Yebegaeshet Nahusenay Fantahun	91	1097	6	Ato Yebegaeshet Nahusenay Fantahun	91	1097
				7	Ato Yebegaeshet Nahusenaye Fentahune	91	1301	7	Ato Yebegaeshet Nahusenaye Fentahune	91	1301
				8	Ato Yebegasheet Nahusenaye Fentahun	91	1334	8	Ato Yebegasheet Nahusenaye Fentahun	91	1334

Levenstein Distance											
Experiment- three				Experiment- four				Experiment- five			
	Similar_ Names	*Similarity_ Scores*	*index_position*		*Similar_ Names*	*Similarity_ Scores*	*index_position*		*Similar_ Names*	*Similarity_ Scores*	*index_position*
				9	Ato Yebegashet Nahusenay Fentahune	91	1476	9	Ato Yebegashet Nahusenay Fentahune	91	1476
				10	Ato Yebegashet Nahusnay Fentahun	90	1329	10	Ato Yebegashet Nahusnay Fentahun	90	1329
				11	Ato Yebegaeshet Nahusenay Fantahune	89	505	11	Ato Yebegaeshet Nahusenay Fantahune	89	505
				12	Ato Yebegashet Nahusenay Fantahun	89	1036	12	Ato Yebegashet Nahusenay Fantahun	89	1036
				13	Ato Yebegaeshet Nahusenaye Fantahun	89	1152	13	Ato Yebegaeshet Nahusenaye Fantahun	89	1152
				14	Ato Yebegaeshet Nahusenai Fentahune	89	1311	14	Ato Yebegaeshet Nahusenai Fentahune	89	1311
				15	Ato Yebegashet Nahusenai Fentahun	89	1406	15	Ato Yebegashet Nahusenai Fentahun	89	1406

Levenstein Distance											
Experiment- three				Experiment- four				Experiment- five			
	Similar_ Names	*Similarity_ Scores*	*index_position*		*Similar_ Names*	*Similarity_ Scores*	*index_position*		*Similar_ Names*	*Similarity_ Scores*	*index_position*
				16	Ato Yebegashet Nahusnay Fentahune	89	1525	16	Ato Yebegashet Nahusnay Fentahune	89	1525
				17	Ato Yebegashet Nahusenaye Fentahune	89	1572	17	Ato Yebegashet Nahusenaye Fentahune	89	1572
				18	Ato Yebegaeshet Nahusenaye Fantahune	88	1034	18	Ato Yebegaeshet Nahusenaye Fantahune	88	1034
				19	Ato Yebegashet Nahusenaye Fantahun	88	1038	19	Ato Yebegashet Nahusenaye Fantahun	88	1038
				20	Ato Yebegashet Nahusenay Fantahune	88	1040	20	Ato Yebegashet Nahusenay Fantahune	88	1040
				21	Ato Yebegashet Nahusnay Fantahun	87	1037	21	Ato Yebegashet Nahusnay Fantahun	87	1037
				22	Ato Yebegaeshet Nahusenai Fantahune	86	1035	22	Ato Yebegaeshet Nahusenai Fantahune	86	1035

Levenstein Distance												
Experiment- three				Experiment- four				Experiment- five				
	Similar_ Names	*Similarity_ Scores*	*index_position*		*Similar_ Names*	*Similarity_ Scores*	*index_position*		*Similar_ Names*	*Similarity_ Scores*	*index_position*	
				23	Ato Yebegashet Nahusenai Fantahun	86	1039	23	Ato Yebegashet Nahusenai Fantahun	86	1039	
				24	Ato Yebegashet Nahusnay Fantahune	86	1041	24	Ato Yebegashet Nahusnay Fantahune	86	1041	
				25	Ato Yebegashet Nahusenaye Fantahune	86	1042	25	Ato Yebegashet Nahusenaye Fantahune	86	1042	
				26	Ato Yebegashet Nahusenai Fantahune	84	1043					
				27	W/rt Mebba Yebegaeshet Nahusenay	78	879					
				28	W/rt Menna Yebegaeshet Nahusnay	75	506					
				29	Ato Kaleab Nahusenay Fentahun	73	1573					

4.7 Discussion

As shown in Table 4.6, the scenarios have several experiment types and results. In addition to this, to solve similarities between names related problems, it is in need to use a fuzzy matching algorithm. If we did not select the best algorithm, then it will be a challenge in a real-world scenario.

Hence, (fuzzy) matching algorithm is a well-known algorithm and experimented with for different test scenarios of the same and not the same names. Accordingly, in the proposed and experimented solution, the Levenstein Distance algorithm was used to minimize the gap of similarities between names. In this work, though the experimentation is conducted for the AML algorithm to detect suspicious customers in financial institutions, the solution is proposed using a fuzzy matching algorithm. Furthermore, five scenarios have been used and each experiment. Two experiments and two scenarios for the N-gram algorithm and two experiments and three scenarios for Levenstein Distance.

In the thesis been observed that the N-gram string matching algorithm matches or search similar names based on the distance between each character and the exact much with the character. In addition to that, the algorithm allows to search or find a similar character in the string.

On the other hand, in all Levenstein Distance experiments the match not only similar name with the requested string, but it also recommends the names with the potential to have similarities or have relationships between the strings. Depending on the similarity score matrix the result is relayed on it. The most the score increase the better potential to get the most exact much.

Chapter Five
Conclusions and Recommendations

5.1 Conclusions

Money laundering has become an issue and drawn back of the developed and special developing country. To this end, the study aimed to detect suspicious customers in Anti-Money Laundering using a Fuzzy matching algorithm. Based on the finding and the big impact of the detecting of the suspicious customer Levenstein Distance algorithm is best for such customers. Because the Levenstein Distance algorithm will give us the list of similar names that are the same or have a relationship with the existing string. Based on the above experimentation now we can answer the research question:

- ***What features could help in detecting suspicious customers?***

  There are different ways for the detection of the suspicious customer and one from most us to create awareness among the concerned Customer service or all staff who have a relation with the transaction. In addition, integrated or standalone fuzzy matching Algorithms take priority. Because the integrated system can detect such customers even when the customer service officer is not aware of them.

- ***Which suspicious customer detection approaches in Ethiopian Banks to fight Anti Money Laundering?***

  Based on my survey, most financial institutions have a difference approaches for the detection of suspicious customers in their systems. Some of them are using an internally developed system for Anti-money laundering reporting but such suspicious customers are past the initial cleating because of shortage of such detection, Fuzzy machine algorithm in their system.

- ***Which algorithm is best practice and widely used for the detection of suspicious customers?***

  The experiment was also implemented to identify the best detection algorithm for suspicious customers. Levenstein Distance is best and advise to implement to the financial institution to detect suspicious customers before making any transaction.

5.2 Recommendations

Because of the research's forgoing findings, the following recommendations are forwarded;

- FIC should finalize a comprehensive report of politically exposed persons, Section List, UN, and EU Financial Sanction list and Office of Foreign Assets Control with such fuzzy algorithm to Protect vulnerability and thereat which to identify the potential Money Laundering and Terrorist Financing risks.
- Continuous and updated awareness creation and technological advancement training sessions should be implemented for all bodies.
- Financial Institutions should implement a fuzzy matching algorithm, Levenstein Distance, to their system to detect suspicious customers.
- Finally, for the researcher, this thesis covers the experimenting of a fuzzy matching algorithm to predict the best algorithm. In the experiment, the algorithm checks the given data with the English alphabet. For better usage and miss-spelling name of written sanction lists, in future algorithms need to be modified to accept Amharic phonetic sanction lists.

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Appendix

Appendix I: Actual workpia

In this Section, Each experimental and test scenario's will discuss one by one based the attributes that assign and the number, the experiment procedure and its result will presented.

1.1.1 Experiment I: - N-Gram based string matching

Test Scenario I: - matches_df[matches_df['similairity'] < 0.99999]

In this experiment, the similarities of the list of instance are tested with Similarity < 0.99999 scores of the attributes. Performing selection Algorithm to predicate before for removing all exact matches.

```
#!/usr/bin/env python
# coding: utf-8
# In[4]:

import sparse_dot_topn.sparse_dot_topn as ct
from scipy.sparse import csr_matrix
import pandas as pd
import numpy as np

# In[5]:
df=pd.read_csv('fuzzy.csv')

# In[6]:
df.head()

# In[7]:
import re

def ngrams(string, n=3):
    string = re.sub(r'[,-./]|\sBD',r'', string)
    ngrams = zip(*[string[i:] for i in range(n)])
    return [''.join(ngram) for ngram in ngrams]

# In[19]:
from sklearn.feature_extraction.text import TfidfVectorizer

Names = df['Names']
vectorizer = TfidfVectorizer(min_df=1, analyzer=ngrams)
tf_idf_matrix = vectorizer.fit_transform(room_ty)

# In[20]:
print(tf_idf_matrix[0])

# In[21]:
ngrams('Wedo')
```

```
# In[22]:
# calculate the similarity between two vectors of TF-IDF values the Cosine Similarity is usually used.
# result matrix in a very sparse terms and Scikit-learn deals with this nicely by returning a sparse CSR matrix.

def awesome_cossim_top(A, B, ntop, lower_bound=0):
    # force A and B as a CSR matrix.
    # If they have already been CSR, there is no overhead
    A = A.tocsr()
    B = B.tocsr()
    M, _ = A.shape
    _, N = B.shape

    idx_dtype = np.int32

    nnz_max = M*ntop

    indptr = np.zeros(M+1, dtype=idx_dtype)
    indices = np.zeros(nnz_max, dtype=idx_dtype)
    data = np.zeros(nnz_max, dtype=A.dtype)

    ct.sparse_dot_topn(
        M, N, np.asarray(A.indptr, dtype=idx_dtype),
        np.asarray(A.indices, dtype=idx_dtype),
        A.data,
        np.asarray(B.indptr, dtype=idx_dtype),
        np.asarray(B.indices, dtype=idx_dtype),
        B.data,
        ntop,
        lower_bound,
        indptr, indices, data)

    return csr_matrix((data,indices,indptr),shape=(M,N))
```

```
# In[23]:
#  Run the optimized cosine similarity function.
#  Only stores the top 10 most similar items with a similarity above 0.8
import time
t1 = time.time()
matches = awesome_cossim_top(tf_idf_matrix, tf_idf_matrix.transpose(), 10, 0.8)
t = time.time()-t1
print("SELFTIMED:", t)

# In[37]:

def get_matches_df(sparse_matrix, name_vector, top=100):
    non_zeros = sparse_matrix.nonzero()

    sparserows = non_zeros[0]
    sparsecols = non_zeros[1]

    if top:
        nr_matches = top
    else:
        nr_matches = sparsecols.size

    left_side = np.empty([nr_matches], dtype=object)
    right_side = np.empty([nr_matches], dtype=object)
    similairity = np.zeros(nr_matches)

    for index in range(0, nr_matches):
        left_side[index] = name_vector[sparserows[index]]
        right_side[index] = name_vector[sparsecols[index]]
        similairity[index] = sparse_matrix.data[index]

    return pd.DataFrame({'left_side': left_side,
                         'right_side': right_side,
                          'similairity': similairity})
```

```
# In[40]:

matches_df = get_matches_df(matches, Names, top=2000)
matches_df = matches_df[matches_df['similairity'] < 0.99999] # For removing all exact matches
matches_df

# In[41]:

matches_df.to_csv('Final_out.csv')

# In[ ]:
```

Table 4.5.1 Result of N-Gram based string matching on matches_df[matches_df['similairity'] < 0.99999] scenario

The output in table form with four column. The first column indicate the Index number that the first sample list found. The Second and the third are shown the similarities name predict by algorithm with comparing the sample data on left side and right side. The final Column two name with gives a the similarity in digits

	Left_side	right_side	similairity
1	HrE Wro Demitu Hambisa	Her Excellency W/ro Demitu Hambisa	0.810601
4	H/E Dr Arkebe Ekubay	His Excellency Dr Arkebe Ekubay	0.863279
9	H/E Dr Ambachew Mekonen	His Excellency Dr Ambachew Mekonen	0.82695
19	H/E Ato Motuma Mekasa	His Excellency Ato Motuma Mekasa	0.826397
21	H/E Ato Tesfahun Gobezay	His Excellency Ato Tesfahun Gobezay	0.859178
24	H/E Ato Werku Guangul	His Excellency Ato Werku Guangul	0.821466
26	H/E Ato Fiseha Yitagesu	Ato Fiseha Yitagesu	0.926181
27	H/E Ato Fiseha Yitagesu	His Excellency Ato Fiseha Yitagesu	0.854674
28	H/E Ato Fiseha Yitagesu	His Excellency Ato Fiseha Yitagesu	0.854674
30	H/E Ato Isayas Kasa	His Excellency Ato Isayas Kasa	0.812378
38	H/E Ato kefyalew Tefera	His Excellency Ato kefyalew Tefera	0.841682
40	H/E Ato Zeinu Jemal	His Excellency Ato Zeinu Jemal	0.830152
51	H/E Dr Aklilu H/Michael	His Excellency Dr Aklilu H/Michael	0.857819
55	Dr Eng Sileshi Bekele Awulachew	Dr Eng Sileshi Bekele Awulew	0.864668
57	H/E Ato Admasu Nebebe Gedamu	His Exellency Ato Admasu Nebebe Gedamu	0.851237
60	H/E Dr Teshome Tafese	His Excellency Dr Teshome Tafese	0.818471
62	Dr Bekele Bulado Bukana	Dr Bekele Bulado Bukana	0.984731
65	H/E Ato Birhanu Tsegaye	His Excellency Ato Birhanu Tsegaye	0.830803
75	Dr Iyasu Abreham	Dr Iyasu Abreha	0.921864
76	Dr Iyasu Abreham	Dr Iyasu Abreha Ale	0.851286
83	H/E Dr Eng Getahun Mekuria	His Excellency Dr Eng. Getahun Mekuria	0.853236
86	H/E Ato Jemal Beker	His Excellency Ato Jemal Beker	0.815817
95	H/E Ato Tazer G/Egziaber	Ato Tazer G/Egziaber Berha	0.822677
96	H/E Ato Tazer G/Egziaber	Ato Tazer G/Egziaber Berha	0.809095
101	H/E Dr Frehiwot Weldehana	His Excellency Dr Frehiwot Weldehana	0.879052
103	Ato Abay Tsehaye Abay	Ato Abay Tsehaye abay	0.804377
105	H/E Dr Negash Wakishaw	His Excellency Dr Negash Wakishaw	0.846748
114	H/E Dr Hirut Weldemariam Teketel	His Excellency Hirut Weldemariam Teketel	0.835916
118	H/E Dr Abdiwas Abdulahi	His Excellency Dr Abdiwas Abdulahi	0.869861
120	H/E Dr Amir Aman	His Excellency Dr Amir Aman	0.810342

	Left_side	right_side	similairity
122	HrE W/ro Sahirla Abdulahi	His Excellency W/ro Sahirla Abdulahi	0.837563
130	H/E Dr Erboge Tesfaye	His Excellency Dr Erboge Tesfaye	0.842603
135	HrE W/ro Buzena Alkedir	Her Excellency W/ro Buzena Alkedir	0.805705
141	Alebel Dese Moges	Alebel Dese Moges	0.962805
144	H/E W/ro Mihiret Minaseb Hailu	Her Excellency W/ro Mihiret Minaseb Hailu	0.884682
162	Ato Birhanu Feyisa	His Excellency Ato Birhanu Feyisa	0.84683
167	H/E Ato Tsegaye Mamo Gastet	His Excellency Ato Tsegaye Mamo Gastet	0.867427
170	Ato Bezabeh G/Silase Tesfaye	Ato Bezabeh G/Silase	0.877203
172	H/E Ato Demise Shito Gondere	His Excellency Ato Demise Shito Gondere	0.882297
175	H/E Ato Tewelde Berhe Beyene	His Excellency Ato Tewelde Berhe Beyene	0.876237
182	Dr Takele Chane	Dr Takele Chane	0.973335
185	Ato Hailekiros Debesay Melkamu	Ato Hailekiros Debesay	0.816847
186	Ato Hailekiros Debesay Melkamu	Ato Hailekiros Debesay	0.816847
189	Ato Mehamed Husen Seyid	Ato Mehamed Husen Seyid	0.969175
193	Ato Tilahun Bekele	Ato Tilahun Bekele	0.970152
194	Ato Tilahun Bekele	Ato Tilahun Bekel	0.946057
197	W/ro Firenash Mekuria Gobena	W/ro Firenesh Mekuria Gobena	0.886147
203	Dr Feleke Weldeyes	Dr Feleke Weldeyes	0.967287
206	Dr Abiyot Birhanu	Dr Abiyot Birhanu	0.965166
208	Dr Agena Anjelo Tanga	Dr Agena Anjelo Tanga	0.9761
211	Ato Selomon Mekonen Bula	Ato Selemon Mekonen Bula	0.83616
217	Ato Tiruneh Mitaf Guta	Ato Tiruneh Mitafa Guta	0.825343
224	Ato Endashaw Tasew W/Giorgis	Ato Indashaw Tasew W/Giorgis	0.868504
231	Ato Kenea Yadeta Irena	Ato Kenea Yadeta Irena	0.982752
234	Ato Mulugeta Werku	Ato Mulugeta Werku	0.830245
237	Ato Damena Darota	Ato Damena Darota	0.980954
238	Ato Damena Darota	His Excellency Ato Damena Darota	0.881547
240	Tadelech Dalecho	Tadelech Dalecha	0.919551
244	Ato Tefera Fikre	Ato Tefera Fikre	0.958705
260	Ato Tamiru Ginbeto	Ato Tamiru Ginbeto	0.997565
262	General Adem Mehamed	General Adem Mehamed	0.979137
263	General Adem Mehamed	General Adem Mohamed	0.827025
265	Commissioner Demelash Michael	Commissioner Demelash /Michael	0.989986
267	Ato Kebede Chane	Ato Kebede Chane	0.971401
269	Ato Nega Berhe	Ato Nega Berhe	0.938662
271	Ato Addisu Kebenesa	Ato Adisu Kebenesa	0.801651
274	w/ro Selamawit Dawit	W/ro Selamawit Dawit	0.959056
276	Ato Getahun Nana Jembere	Ato Getahun Nana Jember	0.982038
282	Ato Yeyigezu Daba	Ato Yeyigezu Daba	0.975446
285	Ato Tesfaye Birhanu	Ato Tesfaye Birhanu	0.952861
289	Ato Gashe Yemaneh	Ato Gashe Yemane	0.906871

	Left_side	right_side	similairity
291	Ato Beyene G/Meskel Mada	Ato Beyene G/Meskel Mada	0.973497
299	Brigadier General Tigabu Fetile	Brigadier General Tigabu Fetle	0.89351
302	Ato Abdulaziz Ahmed	Ato Abdulaziz Ahmed	0.952151
303	Ato Abdulaziz Ahmed	Ato Abdulaziz Ahimed	0.849427
312	Ato Ermias Yemanebirhan	Ato Ermias Yemanebirhan	0.864655
315	Ato Jima Dulbo Denbel	Ato Jima Dulbo Denbel	0.987765
317	Ato Faskaw Molla	Ato Faskaw Mola	0.816966
320	Ato Mersa Gebreyohanis	Ato Mersa Gebereyohanis	0.891616
324	Ato Ashimawi Seyifu	Ato Ashemawi Seyifu	0.811183
327	Ato Abreham Niguse	Ato Abreham Niguse	0.976587
329	Ato Hamid Kiniso	Ato Hamid Kinisa	0.896355
333	Commander Wendimu Chama	Commander Wondimu Chama	0.822314
335	Commander Desta Asmelash	Commander Desta Asmelash	0.983525
338	Ato Mitiku Mada Dilnesa	Ato Mitiku Mada Dilnesaw	0.943364
340	Ato Tesfalem Yihedeg G/Kidan	Ato Tesfalem Yihedego G/Kidan	0.857317
344	Ato Zekarias Erkola	Ato Zekarias Erkola Yimam	0.866999
346	Ato Mulugeta Ayalew	Ato Mulugeta Ayalew	0.847044
350	Ato Zinabu Tadese	Ato Zinabu Tadese	0.983507
356	Dr Terzu Daya	Dr Terzu Daya	0.960927
364	Dr Diraba Geleti	Dr Diraba Geleti	0.814684
366	Dr Chilot Yirga	Dr Chilot Yirga	0.96817
367	Dr Chilot Yirga	Dr Chilot Yirga	0.96817
372	Dr Dagnache Beyene	Dr Dagnachew Beyene	0.831551
376	Ato Shafi Umer Aga	Ato Shafi Umer Aga	0.970109
379	Dr Mekuria Tadese	Dr Mekuria Tadese	0.97773
381	Dr Mesfin Sahile Forsa	Dr Mesfin Sahile Forsa	0.874298
386	Ato Bereket Semion W/Gerima	Ato Bereket Simion W/Gerima	0.845283
389	Ato Sileshi Lema Bekele	Ato Sileshi Lema	0.861182
391	Ato Yared Mesfin Tefera	Ato Yared Mesfin	0.84485
394	Ato Melese Mekuria Bekele	Ato Melese Mekuria Bekele	0.98176
396	Ato Bogale Feleke Temesgen	Ato Bogale Feleke Temesgen	0.985347
399	Ato Hailekiros Debesay	Ato Hailekiros Debesay Melkamu	0.816847
400	Ato Hailekiros Debesay	Ato Hailekiros Debesay Melkamu	0.816847
409	Ato Kahisa G/Medin	Ato Kahisa G/Medin	0.967524
411	Ato Endalew Mekonen	Ato Endalew Mekonen	0.975407
416	Ato Araya Fiseha Gezahegn	Ato Ariaya Fiseha Gezahegn	0.830156
425	Ato Hadushom Tium	Ato Hadushom Tium	0.963174
430	Ato Tadese Guta	Ato Tadese Guta	0.967732
431	Ato Tadese Guta	Ato Tadese Guta	0.967732
435	W/ro Belaynesh Kumsa	W/ro Belaynesh Kumsa	0.982319
439	Ato Wendemagegn Negera	Ato Wendimagegn Negera	0.812381

	Left_side	right_side	similairity
443	Ato Kelifa Husen Nesro	Ato Kelifa Husen	0.802353
445	Ato Hadush Halefom	Ato Hadush Halefom	0.969443
447	Ato Daniel Olani Mekonen	Ato Daniel Olani Mekonen	0.986534
449	Dr Abdu Abagibe	Dr Abdu Abagibe	0.969091
450	Dr Abdu Abagibe	Dr Abdu Abagibe	0.969091
459	W/ro Meselech Wedajo	W/ro Meselech Wedaj	0.890249
465	Dr Hulu Besha	Dr Hulu Besha	0.969241
469	Dr Kasahun Tesfaye Geletu	Dr Kasahun Tesfaye	0.838549
471	Dr Hailu Dadi Melka	Dr Hailu Dadi Melka	0.967852
474	Ato Tewdros Bekele Gerbi	Ato Tewdros Bekele	0.824378
477	Dr Atakilti Gidey Abriha	Ato Atakilti Gidey Abreha	0.834105
479	AtoYohanis Bekele Gezakegn	Ato Yohanis Bekele Gezakegn	0.855681
486	Ato Teshome Sahilemariam	Ato Teshome Sahilemariam	0.980288
490	Ato Abdisa Yadeta	Ato Abdisa Yadeta	0.973002
493	W/ro Almaz Beyero Hirbaye	W/ro Almaz Beyero Hirbaye	0.987541
494	W/ro Almaz Beyero Hirbaye	W/ro Almaz Beyero	0.802461
497	Ato Reshid Mehamed	Ato Reshid Mehamed	0.975592
503	Ato Zewdu Tekilay Aregawi	Ato Zewdu Teklay Aregawi	0.82314
507	Ato Mekonen Abera Tadese	Ato Mekonen Abera Tadese	0.981572
509	Dr Sintayew W/Michael	Dr Sintayew W/Michael	0.984974
510	Dr Sintayew W/Michael	His Excellency Dr Sintayew W/Michael	0.887457
514	Ato Abiy Getachew	Ato Abiy Getachew	0.980094
519	Dr Belete Kebede	Dr Belete Kebede	0.964157
520	Dr Belete Kebede	Dr Belete Kebede	0.964157
524	Ato Mohamed Abdureheman	Ato Mohamed Abdurehaman	0.838258
526	Ato Sisay Bekele	Ato Sisay Bekele	0.969019
528	Ato Alemayew Ayele	Ato Alemayew Ayele	0.972851
530	Ato Daniel Mengiste	Ato Daniel Mengiste	0.976958
532	Eng Tilahun Bireda	Eng. Tilahun Bireka	0.829913
546	Ato Haileberhan Zena	Ato Haileberhan Zena	0.97459
558	Ato Zenebe Kumo Geda	Ato Zenebe Kumo	0.853559
560	Ato Simelash Bezabeh	Ato Simelash Bezabeh	0.973752
567	W/ro Rahel Hailu	W/ro Rahel Hailu	0.963791
569	Ato Bahiru Ashene Gobe	Ato Bahiru Ashene Gobe	0.97691
579	Ato Wana Wake	Ato Wana Wake	0.95508
580	Ato Wana Wake	Ato Wana Wake	0.95508
587	Ato Shiferaw Telila	Ato Shiferaw Telila	0.970828
591	W/ro Hirut Biresa	Her Excellency W/ro Hirut Biresa	0.801977
593	Ato Getachew Gizaw	Ato Getachew Gizaw	0.972076
594	Ato Getachew Gizaw	Ato Getachew Gizaw	0.972076
597	Ato Fetene Teshome Tola	Ato Fetene Teshome	0.866002

	Left_side	right_side	similairity
600	Ato Kinfe Hailemariam Beyene	Ato Kinfe Hailemariam	0.872582
602	Ato Tamene Hailu	Ato Tamene Hailu	0.954118
609	W/ro Roman Gebresilase	W/ro Roman Gebresilase	0.984914
610	W/ro Roman Gebresilase	W/ro Roman Gebresilase	0.984914
613	AtoTagel Kenubeh	Ato Tagel Kenubeh	0.827537
614	AtoTagel Kenubeh	Ato Tagel Kenubeh	0.827537
619	Ato Masresha G/Silase Gidi	Ato Masresha G/Silase	0.882958
623	Ato Araya G/Igziaber Mehari	Ato Araya G/Egziaber Mehari	0.801158
626	Dr Zerihun Duresa	Ato Zerihun Duresa	0.888516
631	Ato Temesgen Tilahun	Ato Temesgen Tilahun	0.977023
632	Ato Temesgen Tilahun	His Exellency Ato Temesgen Tilahun	0.826499
635	Ato Tamirat Mola	Ato Tamirat Mola	0.964729
638	Ato Getachew Negash Tekla	Ato Getachew Negash	0.831718
643	Ato Habtamu Kibret Ijigu	Ato Habtamu Kibret	0.803395
645	Ato Teshome Lema	His Excellency Ato Teshome Lema	0.827647
646	Ato Teshome Lema	Ato Teshome Lema Wedaj	0.820223
650	W/ro Kefelech Denboba	W/ro Kefelech Denboba	0.97984
651	W/ro Kefelech Denboba	W/ro Kefelech Denboba	0.97984
653	D/r Tesfaye Muhiye Endiris	Dr Tesfaye Muhiye Endris	0.825872
666	Dr Tsigereda Kifle Welde	Dr Tsigereda Kifle	0.874607
667	Dr Tsigereda Kifle Welde	W/ro Tsigereda Kiflelde	0.832062
668	Dr Tsigereda Kifle Welde	Dr Tsigereda Kifle Walde	0.822163
669	Dr Tsigereda Kifle Welde	W/ro Tsigereda Kiflelde	0.810361
671	Ato Abreham Gebremedin G/Silase	Ato Abreham Gebremedin G/Silase	0.988231
672	Ato Abreham Gebremedin G/Silase	Ato Abreham Gebremedin	0.818796
679	Dr Abebe Getu	Dr Abebe Genetu	0.80018
684	W/ro Tsigereda Kiflelde	W/ro Tsigereda Kiflelde	0.980278
685	W/ro Tsigereda Kiflelde	Dr Tsigereda Kifle Welde	0.832062
686	W/ro Tsigereda Kiflelde	Dr Tsigereda Kifle	0.809557
692	Dr Loko Abreham	Dr Loko Abreham	0.974894
697	Ato Yoyitom Gigar Abera	Ato Goyitom Gigar Abera	0.839241
700	Dr Wendemagegn Gezakegn	Dr Wendimagegn Gezakegn	0.877985
706	Ato Dagnew Hagezo	Ato Dagnew Hagezo	0.937046
713	Ato Dereje Wube Mekasha	Ato Dereje Wube Mekasha	0.981689
714	Ato Dereje Wube Mekasha	Ato Dereje Wube	0.829316
736	Ato Yekunoamlak Mezgebu	Ato Yikunoamlak Mezgebu	0.860986
738	Ato Manyazewal Endesa	Ato Manyazewal Andesa	0.80644
740	W/ro Aster Dawit	W/ro Aster Dawit	0.896828
744	W/ro Misrak Mamo Tefera	W/ro Misrak Mamo	0.84397
748	Ato Mulugeta Beyene	Ato Mulugeta Beyene	0.974494
751	Ato Geremew Garje Gediba	Ato Geremew Garje Gediba	0.983535

	Left_side	right_side	similairity
755	Ato Biratu Yigezu	Ato Biratu Yigezu Yigezu	0.931873
756	Ato Biratu Yigezu	Aro Biratu Yigezu Yigezu	0.894976
759	Ato Amare Legese	Ato Amare Legese	0.975493
762	W/rt Aberash Tariku	W/rt Aberash Tariku	0.970612
765	Ato Ahemed Abitew Asfaw	Ato Ahimed Abitew Asfaw	0.809211
767	Dr Yohanes Ayalew	Dr Yohanis Ayalew	0.830607
768	Dr Yohanes Ayalew	Dr Yohanis Ayalew	0.811369
783	Ato Sinishaw Alamirew Tirfe	Ato Sinishaw Alamirew Tirfe	0.97685
784	Ato Sinishaw Alamirew Tirfe	Ato Sineshaw Alamirew Tirfe	0.852582
787	Ato Ayelign Mulualem Tafe	Ato Ayelign Mulualem	0.868451
790	Ato Tebabal Wudeneh Gelaye	Ato Tebabal Wudneh Gelaye	0.822866
791	Ato Tebabal Wudeneh Gelaye	Ato Tebabal Wudneh Gelaye	0.822866
793	Dr Iyasu Abreha Ale	Dr Iyasu Abreha	0.92344
794	Dr Iyasu Abreha Ale	Dr Iyasu Abreha Ale	0.864934
795	Dr Iyasu Abreha Ale	Dr Iyasu Abreham	0.851286
801	Ato Niguse Beyene Belew	Ato Niguse Beyene Belewu	0.959254
803	W/ro Abebech Negash Kahisay	W/ro Abebech Negash Kahisay	0.986103
809	Ato Asmelash Bezabeh Hagos	Ato Asmelash Bezabeh Hagos	0.977871
810	Ato Asmelash Bezabeh Hagos	Ato Asmelash Bezabeh	0.827599
812	Ato Tazer G/Egziaber Berha	Ato Tazer G/Egziaber Berha	0.98349
813	Ato Tazer G/Egziaber Berha	H/E Ato Tazer G/Egziaber	0.809095
815	W/ro Almaz Tilahun Tirfe	W/ro Almaz Tilahun Tirfe	0.974776
817	Ato Hadush G/Egziaber W/silase	Ato Hadush G/Egziaber W/Silase	0.802194
824	Ato Gemechu Dibisa Godana	Ato Gemechu Dibiso Godana	0.892012
835	Ato Yidnekachew Werku Kasa	Ato Yidnekachew Werku Kasa	0.986418
839	Ato Mulugeta Tadese Asegedom	Ato Mulugeta Tadese Asegedom	0.974186
847	Ato Meresa G/yohanis Asfawesen	Ato Meresa G/Yohanis Asfawesen	0.832205
851	Ato Mehamed Ahimed Yeshaw	Ato Mehamed Ahimed Yeshaw	0.982552
852	Ato Mehamed Ahimed Yeshaw	Ato Mehamed Ahimed Yishaw	0.825778
855	Ato Hadishom Tium Araya	Ato Hadishom Tium Ariaya	0.841236
866	Ato Biratu Yigezu Yigezu	Aro Biratu Yigezu Yigezu	0.96352
867	Ato Biratu Yigezu Yigezu	Ato Biratu Yigezu	0.931873
868	Ato Biratu Yigezu Yigezu	Ato Biratu Yigezu	0.931873
869	Ato Biratu Yigezu Yigezu	Ato Biratu Yigezu	0.931873
873	Ato Fikadu Seboka Gemeda	Ato Fikadu Seboka Gemeda	0.977453
888	Ato Nigus Lema Gebere	Ato Nigus Lema Gebre	0.866691
891	Dr Mebratu G/Mariam Kalo	Dr Mebratu G/Mariam	0.85216
893	Ato Werdi Hashim	Ato Werdi Hashim	0.956332
894	Ato Werdi Hashim	Ato Werdi Hashim	0.956332
895	Ato Werdi Hashim	Ato Werdi Hashim	0.956332
897	Ato Amare Admasu Zewudu	Ato Amare Admasu Zewude	0.893358

	Left_side	right_side	similairity
899	Ato Mulugeta G/Tsadik	Ato Mulugeta G/Tsadik	0.955585
901	Ato Teshome Lema Wedaj	Ato Teshome Lema	0.820223
914	W/ro Fozia Amin Aray	W/ro Fozia Amin	0.856899
917	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusenay Fentahune	0.95815
918	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusenaye Fentahun	0.920362
919	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegashet Nahusenay Fentahun	0.909861
920	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusnay Fentahun	0.900953
921	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusenay Fantahun	0.88725
922	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusenaye Fentahune	0.880382
923	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegashet Nahusenay Fentahune	0.867942
924	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusenai Fentahun	0.864021
925	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusenay Fantahune	0.847292
927	Ato Yebegaeshet Nahusenay Fantahune	Ato Yebegaeshet Nahusenay Fantahun	0.958176
928	Ato Yebegaeshet Nahusenay Fantahune	Ato Yebegaeshet Nahusenaye Fantahune	0.923009
929	Ato Yebegaeshet Nahusenay Fantahune	Ato Yebegashet Nahusenay Fantahune	0.91296
930	Ato Yebegaeshet Nahusenay Fantahune	Ato Yebegaeshet Nahusenay Fentahune	0.890969
931	Ato Yebegaeshet Nahusenay Fantahune	Ato Yebegaeshet Nahusenaye Fantahun	0.880165
932	Ato Yebegaeshet Nahusenay Fantahune	Ato Yebegashet Nahusenay Fantahun	0.868864
933	Ato Yebegaeshet Nahusenay Fantahune	Ato Yebegaeshet Nahusenai Fantahune	0.868434
934	Ato Yebegaeshet Nahusenay Fantahune	Ato Yebegaeshet Nahusenay Fentahun	0.847292
935	Ato Yebegaeshet Nahusenay Fantahune	Ato Yebegashet Nahusenaye Fantahune	0.834484
938	Ato Siraj Fegesa	His Excellency Ato Siraj Fegesa	0.869887
942	Dr Gemeda Dale	His Excellency Dr Gemeda Dale	0.812904
944	Ato Melaku Alebel	His Excellency Ato Melaku Alebel	0.827397
946	W/ro Fozia Amin	W/ro Fozia Amin Aray	0.856899
948	Dr Abreham Tekeste	His Excellency Dr Abreham Tekeste	0.840519
951	Dr Mebratu G/Mariam	Dr Mebratu G/Mariam Kalo	0.85216
952	Dr Mebratu G/Mariam	Dr Mebratu G/Mariam Kalo	0.85216
953	Dr Mebratu G/Mariam	His Excellency Dr Mebratu G/Mariam	0.847941
964	W/ro Ferihiya Mehamed	Her Excellency W/ro Ferihiya Mehamed	0.857182
970	Ato Wendu Legese Gizachew	Ato Wendu Legese Gizaw	0.859173
977	Ato Werdi Hashim	Ato Werdi Hashim	0.956332
983	Ato Sileshi Getahun	Ato Sileshi Getahun	0.973146
987	Ato Tamiru Ginbeto	Ato Tamiru Ginbeto	0.997565
988	Ato Tamiru Ginbeto	Ato Tamiru Ginbeto	0.997565
989	Ato Tamiru Ginbeto	Ato Tamiru Ginbeto	0.997565
991	Ato Abera Mulatu	Ato Abera Mulat	0.878849
995	His Excellency Dr Arikebe Ekubay	His Excellency Dr Arkebe Ekubay	0.81392
999	His Excellency Temesgen Tiruneh	Ato Temesgen Tiruneh	0.844306
1001	His Excellency Ambachew Mekonen	His Excellency Dr Ambachew Mekonen	0.92762
1003	His Excellency Ato Melese Alemu	His Excellency Ato Melese Alemu	0.871131

	Left_side	right_side	similairity
1010	His Excellency Temesgen Burka	His Excellency Dr Temesgen Burka	0.881487
1014	His Excellency Motuma Mekasa	His Excellency Ato Motuma Mekasa	0.903512
1016	His Excellency Ato Tesfahun Gobezay	H/E Ato Tesfahun Gobezay	0.859178
1019	His Excellency Ato Werku Guanegul	His Excellency Ato Werku Guangul	0.804096
1022	His Excellency Ato Fiseha Yitagesu	H/E Ato Fiseha Yitagesu	0.854674
1023	His Excellency Ato Fiseha Yitagesu	Ato Fiseha Yitagesu	0.852862
1025	His Excellency Ato Isayas Kasa	H/E Ato Isayas Kasa	0.812378
1032	Her Excellency W/ro Muferiat Kamil	Her Excellency W/rt Muferiat Kamil	0.878726
1035	His Excellency Ato Zeinu Jemal	H/E Ato Zeinu Jemal	0.830152
1043	His Excellency Dr Werkineh Gebeyew	His Excellency Dr Werkineh Gebeyw	0.863579
1045	Her Excelency W/ro Hirut Zemene	Her Excellency W/ro Hirut Zemene	0.973196
1047	Her Excellency Amb. Birtukan Ayano	Her Excellency W/ro Birtukan Ayano	0.838616
1049	His Excellency Dr Aklilu H/Michael	H/E Dr Aklilu H/Michael	0.857819
1053	Dr Eng Sileshi Bekele Awulew	Dr Eng Sileshi Bekele Awulachew	0.864668
1055	His Exellency Ato Admasu Nebebe Gedamu	H/E Ato Admasu Nebebe Gedamu	0.851237
1058	His Excellency Dr Teshome Tafese	H/E Dr Teshome Tafese	0.818471
1060	Dr Bekele Bulado Bukana	Dr Bekele Bulado Bukana	0.984731
1063	His Exellency Ato Birhanu Tsegaye	His Excellency Ato Birhanu Tsegaye	0.903633
1066	His Excellency Admasu Ango	His Excellency Ato Admasu Ango	0.974206
1073	His Excellency Dr Kaba Urgesa Dinsa	His Excellency Dr Kaba Urgesa	0.851985
1075	Dr Iyasu Abreha	Dr Iyasu Abreha Ale	0.92344
1076	Dr Iyasu Abreha	Dr Iyasu Abreham	0.921864
1077	Dr Iyasu Abreha	His Excellency Dr Iyasu Abreha	0.838327
1085	His Excellency Dr Eng. Getahun Mekuria	H/E Dr Eng Getahun Mekuria	0.853236
1086	His Excellency Dr Eng. Getahun Mekuria	His Excellency Dr Eng.Getahun Mekuria	0.80603
1089	His Excellency Ato Jemal Beker	H/E Ato Jemal Beker	0.815817
1091	His Excellency Dr Shumete Gizaw W/Amanuel	His Excellency Dr Shumete Gizaw	0.810787
1101	His Excellency Kasahun Gofe	His Excellency Ato Kassahun Gofe	0.811286
1103	His Excellency Dr Eng. Sileshi Bekele	His Excellency Dr Eng. Sileshi Bekel	0.960477
1105	His Excellency Dr Frehiwot Weldehana	H/E Dr Frehiwot Weldehana	0.879052
1107	Ato Abay Tsehaye abay	Ato Abay Tsehaye Abay	0.804377
1109	His Excellency Dr Negash Wakishaw	His Excellency Negash Wakishaw	0.859053
1110	His Excellency Dr Negash Wakishaw	H/E Dr Negash Wakishaw	0.846748
1115	His Excellency Dr Kongtut Lam	His Excellency Dr Kongistut Lam	0.803128
1117	His Excellency Dr Tilaye Gete Ambaye	His Excellency Dr Tilaye Gete	0.848786
1121	His Excellency Hirut Weldemariam Teketel	H/E Dr Hirut Weldemariam Teketel	0.835916
1123	His Excellency Dr Samuel Kifle Kasu	His Excellency Dr Samuel Kifle	0.918985
1126	His Excellency Dr Abdiwas Abdulahi	H/E Dr Abdiwas Abdulahi	0.869861
1128	His Excellency Dr Amir Aman	His Excellency Dr Amir Aman	0.979368

	Left_side	right_side	similairity
1130	His Excellency W/ro Sahirla Abdulahi	HrE W/ro Sahirla Abdulahi	0.837563
1137	Her Excellency W/ro Simegn Wube Haile	Her Excellency W/ro Simegn Wube	0.90573
1140	His Excellency Dr Erboge Tesfaye	H/E Dr Erboge Tesfaye	0.842603
1145	Her Excellency W/ro Buzena Alkedir	Her Excellency W/ro Buzena Alkedir	0.973047
1146	Her Excellency W/ro Buzena Alkedir	HrE W/ro Buzena Alkedir	0.805705
1148	Her Excellency W/ro Bizunesh Meseret	Her Excellency W/ro Bizunesh Meseret	0.903667
1150	His Excellency Ato Habtamu Sisay	his Excellency Ato Habtamu Sisay	0.940481
1154	Alebel Dese Moges	Alebel Dese Moges	0.962805
1156	His Excellency Ato Mehamed Abdu Ahimed	Ato Mehamed Abdu Ahimed	0.855035
1158	Her Excellency W/ro Mihiret Minaseb Hailu	H/E W/ro Mihiret Minaseb Hailu	0.884682
1161	His Excellency Getachew Adem	His Excellency Ato Getachew Ademe	0.850498
1164	Ato Fitsum Arega	His Excellency Ato Fitsum Arega	0.841982
1166	Ato Temesgen Tilahun	Ato Temesgen Tilahun	0.977023
1167	Ato Temesgen Tilahun	Ato Temesgen Tilahun	0.977023
1168	Ato Temesgen Tilahun	Ato Temesgen Tilahun	0.977023
1169	Ato Temesgen Tilahun	His Exellency Ato Temesgen Tilahun	0.807509
1182	Ato Birhanu Feyisa	His Excellency Ato Birhanu Feyisa	0.84683
1187	His Excellency Ato Tsegaye Mamo Gastet	H/E Ato Tsegaye Mamo Gastet	0.867427
1188	His Excellency Ato Tsegaye Mamo Gastet	His Excellency Ato Tsegaye Mamo	0.810853
1191	Ato Bezabeh G/Silase Tesfaye	Ato Bezabeh G/Silase	0.877203
1193	His Excellency Ato Demise Shito Gondere	H/E Ato Demise Shito Gondere	0.882297
1194	His Excellency Ato Demise Shito Gondere	His Excellency Ato Demise Shito	0.827603
1197	His Excellency Ato Tewelde Berhe Beyene	H/E Ato Tewelde Berhe Beyene	0.876237
1204	Dr Takele Chane	Dr Takele Chane	0.973335
1207	Ato Hailekiros Debesay Melkamu	Ato Hailekiros Debesay	0.816847
1208	Ato Hailekiros Debesay Melkamu	Ato Hailekiros Debesay	0.816847
1210	Ato Zekarias Erkola Yimam	Ato Zekarias Erkola	0.866999
1211	Ato Zekarias Erkola Yimam	Ato Zekarias Erkola	0.866999
1213	Ato Mehamed Husen Seyid	Ato Mehamed Husen Seyid	0.969175
1217	Ato Tilahun Bekel	Ato Tilahun Bekele	0.975163
1218	Ato Tilahun Bekel	Ato Tilahun Bekele	0.946057
1221	W/ro Firenesh Mekuria Gobena	W/ro Firenash Mekuria Gobena	0.886147
1226	Dr Feleke Weldeyes	Dr Feleke Weldeyes	0.967287
1227	Dr Feleke Weldeyes	Dr Feleke Weldeyes	0.967287
1229	Dr Abiyot Birhanu	Dr Abiyot Birhanu	0.965166
1230	Dr Abiyot Birhanu	Dr Abiyot Birhanu	0.965166
1232	Dr Agena Anjelo Tanga	Dr Agena Anjelo Tanga	0.9761
1233	Dr Agena Anjelo Tanga	Dr Agena Anjelo	0.807526
1235	Ato Kumera Wakjira Gemeda	Ato Kumera Wakjira	0.894982

	Left_side	right_side	similairity
1237	Ato Selemon Mekonen Bula	Ato Selomon Mekonen Bula	0.83616
1242	Ato Yemane Yosef Tesfaye	Ato Yemaneh Yosef Tesfaye	0.850673
1244	Ato Tiruneh Mitafa Guta	Ato Tiruneh Mitafa	0.859475
1245	Ato Tiruneh Mitafa Guta	Ato Tiruneh Mitaf Guta	0.825343
1251	Her Excellency W/ro Werkinesh Biru	Her Excellency W/ro Werkinesh Biru	0.975393
1253	Ato Indashaw Tasew W/Giorgis	Ato Endashaw Tasew W/Giorgis	0.868504
1257	Ato Yihedego Siyum W/mariam	Ato Yihedego Siyum	0.806408
1261	Ato Kenea Yadeta Irena	Ato Kenea Yadeta Irena	0.982752
1263	Ato Mulugeta Werku	Ato Mulugeta Werku	0.830245
1264	Ato Mulugeta Werku	Ato Mulugeta Werku	0.830245
1266	His Excellency Ato Mitiku Kasa	His Excellency Mitiku Kasa	0.91137
1268	Ato Damena Darota	Ato Damena Darota	0.980954
1269	Ato Damena Darota	His Excellency Ato Damena Darota	0.864757
1271	Tadelech Dalecha	Tadelech Dalecho	0.919551
1272	Tadelech Dalecha	W/ro Tadelech Dalew	0.813521
1276	Ato Tefera Fikre	Ato Tefera Fikre	0.958705
1283	Ato Werku Gachena Negera	Ato Werku Gachena	0.812998
1286	Ato Birhane Weldekiros	Ato Birhane Weldekiros	0.97348
1294	Ato Tamiru Ginbeto	Ato Tamiru Ginbeto	0.997565
1296	General Adem Mohamed	General Adem Mehamed	0.848901
1297	General Adem Mohamed	General Adem Mehamed	0.827025
1299	Commissioner Demelash /Michael	Commissioner Demelash Michael	0.989986
1301	Ato Kebede Chane	Ato Kebede Chane	0.971401
1303	Ato Nega Berhe	Ato Nega Berhe	0.938662
1305	Ato Adisu Kebenesa	Ato Addisu Kebenesa	0.801651
1308	W/ro Selamawit Dawit	w/ro Selamawit Dawit	0.959056
1310	Ato Getahun Nana Jember	Ato Getahun Nana Jembere	0.982038
1315	Ato Jonse Degefa Leta	Ato Jonse Degefa	0.870853
1317	Ato Yeyigezu Daba	Ato Yeyigezu Daba	0.975446
1319	Ato Tesfaye Birhanu	Ato Tesfaye Birhanu	0.952861
1320	Ato Tesfaye Birhanu	Ato Tesfaye Birhanu	0.952861
1324	Ato Gashe Yemaneh	Ato Gashe Yemane	0.906871
1326	Ato Beyene G/Meskel Mada	Ato Beyene G/Meskel Mada	0.973497
1334	Brigadier General Tigabu Fetle	Brigadier General Tigabu Fetile	0.89351
1337	Ato Abdulaziz Ahmed	Ato Abdulaziz Ahmed	0.952151
1338	Ato Abdulaziz Ahmed	Ato Abdulaziz Ahimed	0.808783
1344	Le/Colonel Shegaw Mulugeta	l/Colonel Shegaw Mulugeta	0.864885
1348	Ato Ermias Yemanebirhan	Ato Ermias Yemanebirhan	0.864655
1349	Ato Ermias Yemanebirhan	Ato Ermias Yemaneberhan	0.858053
1352	Ato Jima Dulbo Denbel	Ato Jima Dulbo Denbel	0.987765
1354	Ato Faskaw Mola	Ato Faskaw Molla	0.816966

	Left_side	right_side	similairity
1356	Ato Mersa Gebereyohanis	Ato Mersa Gebreyohanis	0.891616
1357	Ato Mersa Gebereyohanis	Ato Mersa Gebreyohanis	0.891616
1361	Ato Ashemawi Seyifu	Ato Ashimawi Seyifu	0.811183
1363	Ato Abreham Niguse	Ato Abreham Niguse	0.976587
1364	Ato Abreham Niguse	Ato Abreham Niguse	0.976587
1369	Commander Wondimu Chama	Commander Wendimu Chama	0.822314
1371	Commander Desta Asmelash	Commander Desta Asmelash	0.983525
1374	Ato Mitiku Mada Dilnesaw	Ato Mitiku Mada Dilnesa	0.943364
1376	Ato Tesfalem Yihedego G/Kidan	Ato Tesfalem Yihedeg G/Kidan	0.857317
1380	Ato Zekarias Erkola	Ato Zekarias Erkola Yimam	0.866999
1382	Ato Mulugeta Ayalew	Ato Mulugeta Ayalew	0.847044
1386	Ato Zinabu Tadese	Ato Zinabu Tadese	0.983507
1392	Dr Terzu Daya	Dr Terzu Daya	0.960927
1394	Ato Usman Surur Siraj	Ato Usman Surur Siraj	0.873326
1401	Dr Diraba Geleti	Dr Diraba Geleti	0.814684
1404	Dr Chilot Yirga	Dr Chilot Yirga	0.96817
1411	Ato Shafi Umer Aga	Ato Shafi Umer Aga	0.970109
1412	Ato Shafi Umer Aga	Ato Shafi Umer Aga	0.970109
1414	Ato Awugichew Teshome Kifle	Ato Awugichew Teshome	0.862958
1416	Dr Mekuria Tadese	Dr Mekuria Tadese	0.97773
1418	Dr Mesfin Sahile Forsa	Dr Mesfin Sahile Forsa	0.874298
1423	Ato Bereket Simion W/Gerima	Ato Bereket Semion W/Gerima	0.845283
1429	Ato Melese Mekuria Bekele	Ato Melese Mekuria Bekele	0.98176
1430	Ato Melese Mekuria Bekele	Ato Bekele Mekuria	0.820652
1432	Ato Bogale Feleke Temesgen	Ato Bogale Feleke Temesgen	0.985347
1442	Ato Kahisa G/Medin	Ato Kahisa G/Medin	0.967524
1444	Ato Endalew Mekonin	Ato Endalew Mekonen	0.816341
1449	Ato Ariaya Fiseha Gezahegn	Ato Araya Fiseha Gezahegn	0.830156
1458	Ato Hadushom Tium	Ato Hadushom Tium	0.963174
1462	Dr Tekeba Eshetu	Ato Tekeba Eshete	0.828387
1465	Ato Tadese Guta	Ato Tadese Guta	0.967732
1471	W/ro Belaynesh Kumsa	W/ro Belaynesh Kumsa	0.982319
1473	Ato Bekele Mekuria	Ato Melese Mekuria Bekele	0.820652
1476	Ato Wendimagegn Negera	Ato Wendemagegn Negera	0.812381
1480	Ato Kelifa Husen Nesro	Ato Kelifa Husen	0.802353
1482	Ato Hadush Halefom	Ato Hadush Halefom	0.969443
1484	Ato Daniel Olani Mekonen	Ato Daniel Olani Mekonen	0.986534
1487	Dr Abdu Abagibe	Dr Abdu Abagibe	0.969091
1499	Dr Hulu Besha	Dr Hulu Besha	0.969241
1504	Dr Kasahun Tesfaye Geletu	Dr Kasahun Tesfaye	0.838549
1506	Dr Hailu Dadi Melka	Dr Hailu Dadi Melka	0.967852

	Left_side	right_side	similairity
1509	Ato Tewdros Bekele Gerbi	Ato Tewdros Bekele	0.824378
1513	Ato Atakilti Gidey Abreha	Dr Atakilti Gidey Abriha	0.834105
1515	Ato Yohanis Bekele Gezakegn	AtoYohanis Bekele Gezakegn	0.855681
1522	Ato Teshome Sahilemariam	Ato Teshome Sahilemariam	0.980288
1526	Ato Abdisa Yadeta	Ato Abdisa Yadeta	0.973002
1529	W/ro Almaz Beyero Hirbaye	W/ro Almaz Beyero Hirbaye	0.987541
1538	Ato Zewdu Teklay Aregawi	Ato Zewdu Tekilay Aregawi	0.82314
1542	Ato Mekonen Abera Tadese	Ato Mekonen Abera Tadese	0.981572
1544	Dr Sintayew W/Michael	Dr Sintayew W/Michael	0.984974
1545	Dr Sintayew W/Michael	His Excellency Dr Sintayew W/Michael	0.874122
1549	Ato Abiy Getachew	Ato Abiy Getachew	0.980094
1555	Dr Belete Kebede	Dr Belete Kebede	0.964157
1559	Ato Mohamed Abdurehaman	Ato Mohamed Abdureheman	0.838258
1561	Ato Sisay Bekele	Ato Sisay Bekele	0.969019
1563	Ato Alemayew Ayele	Ato Alemayew Ayele	0.972851
1565	Ato Daniel Mengiste	Ato Daniel Mengiste	0.976958
1580	Ato Haileberhan Zena	Ato Haileberhan Zena	0.97459
1591	Ato Zenebe Kumo Geda	Ato Zenebe Kumo	0.853559
1593	Ato Simelash Bezabeh	Ato Simelash Bezabeh	0.973752
1600	W/ro Rahel Hailu	W/ro Rahel Hailu	0.963791
1602	Ato Bahiru Ashene Gobe	Ato Bahiru Ashene Gobe	0.97691
1613	Ato Wana Wake	Ato Wana Wake	0.95508
1621	Ato Shiferaw Telila	Ato Shiferaw Telila	0.970828
1626	W/ro Hirut Biresa	Her Excellency W/ro Hirut Biresa	0.801977
1629	Ato Getachew Gizaw	Ato Getachew Gizaw	0.972076
1632	Ato Fetene Teshome Tola	Ato Fetene Teshome	0.866002
1635	Ato Kinfe Hailemariam Beyene	Ato Kinfe Hailemariam	0.872582
1637	Ato Tamene Hailu	Ato Tamene Hailu	0.954118
1645	W/ro Roman Gebresilase	W/ro Roman Gebresilase	0.984914
1650	Ato Tagel Kenubeh	AtoTagel Kenubeh	0.827537
1655	Ato Masresha G/Silase Gidi	Ato Masresha G/Silase	0.882958
1659	Ato Araya G/Egziaber Mehari	Ato Araya G/Egziaber	0.859937
1660	Ato Araya G/Egziaber Mehari	Ato Araya G/Igziaber Mehari	0.801158
1663	Dr Zerihun Duresa	Ato Zerihun Duresa	0.888516
1668	Ato Temesgen Tilahun	Ato Temesgen Tilahun	0.977023
1669	Ato Temesgen Tilahun	His Exellency Ato Temesgen Tilahun	0.826499
1672	Ato Tamirat Mola	Ato Tamirat Mola	0.964729
1675	Ato Getachew Negash Tekla	Ato Getachew Negash	0.831718
1680	Ato Habtamu Kibret Ijigu	Ato Habtamu Kibret	0.803395
1687	W/ro Kefelech Denboba	W/ro Kefelech Denboba	0.97984
1689	Dr Tesfaye Muhiye Endris	D/r Tesfaye Muhiye Endiris	0.825872

	Left_side	right_side	similairity
1702	Dr Tsigereda Kifle Walde	Dr Tsigereda Kifle	0.848878
1703	Dr Tsigereda Kifle Walde	Dr Tsigereda Kifle Welde	0.822163
1705	Ato Abreham Gebremedin G/Silase	Ato Abreham Gebremedin G/Silase	0.988231
1706	Ato Abreham Gebremedin G/Silase	Ato Abreham Gebremedin	0.828546
1713	Dr Abebe Genetu	Dr Abebe Getu	0.80018
1718	W/ro Tsigereda Kiflelde	W/ro Tsigereda Kiflelde	0.980278
1719	W/ro Tsigereda Kiflelde	Dr Tsigereda Kifle	0.825844
1720	W/ro Tsigereda Kiflelde	Dr Tsigereda Kifle Welde	0.810361
1726	Dr Loko Abreham	Dr Loko Abreham	0.974894
1730	Ato Tesfalem Adraro Akilo	Ato Tesfalem Adraro	0.818204
1732	Ato Goyitom Gigar Abera	Ato Yoyitom Gigar Abera	0.839241
1735	Dr Wendimagegn Gezakegn	Dr Wendemagegn Gezakegn	0.877985
1741	Ato Dagnew Hagezo	Ato Dagnew Hagezo	0.937046
1747	Ato Gemechu Weyuma	Ato Gemechu Weyuma	0.977205
1749	Ato Dereje Wube Mekasha	Ato Dereje Wube Mekasha	0.981689
1750	Ato Dereje Wube Mekasha	Ato Dereje Wube	0.844785
1770	Ato Yikunoamlak Mezgebu	Ato Yekunoamlak Mezgebu	0.860986
1772	Ato Manyazewal Andesa	Ato Manyazewal Endesa	0.80644
1774	W/ro Aster Dawit	W/ro Aster Dawit	0.896828
1775	W/ro Aster Dawit	Her Excellency W/ro Aster Dawit	0.839167
1779	W/ro Misrak Mamo	W/ro Misrak Mamo Tefera	0.84397
1780	W/ro Misrak Mamo	Her Excellency W/ro Misrak Mamo	0.840957
1784	Ato Mulugeta Beyene	Ato Mulugeta Beyene	0.974494
1787	Ato Geremew Garje Gediba	Ato Geremew Garje Gediba	0.983535
1791	Ato Biratu Yigezu	Ato Biratu Yigezu Yigezu	0.931873
1792	Ato Biratu Yigezu	Aro Biratu Yigezu Yigezu	0.894976
1794	Ato Amare Legese	Ato Amare Legese	0.975493
1795	Ato Amare Legese	Ato Amare Legese	0.975493
1797	W/rt Aberash Tariku	W/rt Aberash Tariku	0.970612
1798	W/rt Aberash Tariku	W/rt Aberash Tariku	0.970612
1802	Ato Ahimed Abitew Asfaw	Ato Ahemed Abitew Asfaw	0.809211
1804	Dr Yohanis Ayalew	Dr Yohanis Ayalew	0.982866
1805	Dr Yohanis Ayalew	Dr Yohanes Ayalew	0.830607
1807	Ato Alemnew Mekonin	His Excellency Ato Alemnew Mekonin	0.875001
1821	Ato Sinishaw Alamirew Tirfe	Ato Sinishaw Alamirew Tirfe	0.97685
1822	Ato Sinishaw Alamirew Tirfe	Ato Sineshaw Alamirew Tirfe	0.879329
1825	Ato Ayelign Mulualem Tafe	Ato Ayelign Mulualem	0.868451
1828	Ato Tebabal Wudneh Gelaye	Ato Tebabal Wudeneh Gelaye	0.822866
1829	Ato Tebabal Wudneh Gelaye	Ato Tebabal Wudeneh Gelaye	0.822866
1831	Dr Iyasu Abreha Ale	Dr Iyasu Abreha Ale	0.864934
1837	Ato Niguse Beyene Belewu	Ato Niguse Beyene Belew	0.959254

	Left_side	right_side	similairity
1839	W/ro Abebech Negash Kahisay	W/ro Abebech Negash Kahisay	0.986103
1845	Ato Asmelash Bezabeh Hagos	Ato Asmelash Bezabeh Hagos	0.977871
1846	Ato Asmelash Bezabeh Hagos	Ato Asmelash Bezabeh	0.846328
1848	Ato Tazer G/Egziaber Berha	Ato Tazer G/Egziaber Berha	0.98349
1849	Ato Tazer G/Egziaber Berha	H/E Ato Tazer G/Egziaber	0.822677
1851	W/ro Almaz Tilahun Tirfe	W/ro Almaz Tilahun Tirfe	0.974776
1853	Ato Hadush G/Egziaber W/Silase	Ato Hadush G/Egziaber W/silase	0.802194
1860	Ato Gemechu Dibiso Godana	Ato Gemechu Dibisa Godana	0.892012
1871	Ato Yidnekachew Werku Kasa	Ato Yidnekachew Werku Kasa	0.986418
1875	Ato Mulugeta Tadese Asegedom	Ato Mulugeta Tadese Asegedom	0.974186
1880	Ato Alemayew Asefa Adeto	Ato Alemayew Asefa	0.828767
1884	Ato Meresa G/Yohanis Asfawesen	Ato Meresa G/yohanis Asfawesen	0.832205
1888	Ato Mehamed Ahimed Yishaw	Ato Mehamed Ahimed Yeshaw	0.845324
1889	Ato Mehamed Ahimed Yishaw	Ato Mehamed Ahimed Yeshaw	0.825778
1892	Ato Hadishom Tium Ariaya	Ato Hadishom Tium Araya	0.841236
1903	Aro Biratu Yigezu Yigezu	Ato Biratu Yigezu Yigezu	0.96352
1904	Aro Biratu Yigezu Yigezu	Ato Biratu Yigezu	0.894976
1905	Aro Biratu Yigezu Yigezu	Ato Biratu Yigezu	0.894976
1906	Aro Biratu Yigezu Yigezu	Ato Biratu Yigezu	0.894976
1910	Ato Fikadu Seboka Gemeda	Ato Fikadu Seboka Gemeda	0.977453
1923	Ato Mehamed Abdu Ahimed	His Excellency Ato Mehamed Abdu Ahimed	0.855035
1926	Ato Nigus Lema Gebre	Ato Nigus Lema Gebere	0.866691
1929	Dr Mebratu G/Mariam Kalo	Dr Mebratu G/Mariam	0.85216
1933	Ato Werdi Hashim	Ato Werdi Hashim	0.956332
1935	Ato Amare Admasu Zewude	Ato Amare Admasu Zewudu	0.893358
1937	Ato Mulugeta G/Tsadik	Ato Mulugeta G/Tsadik	0.955585
1941	Ato Yebegaeshet Nahusnay Fentahun	Ato Yebegashet Nahusnay Fentahun	0.913287
1942	Ato Yebegaeshet Nahusnay Fentahun	Ato Yebegaeshet Nahusenay Fentahun	0.900953
1943	Ato Yebegaeshet Nahusnay Fentahun	Ato Yebegashet Nahusnay Fentahune	0.872895
1944	Ato Yebegaeshet Nahusnay Fentahun	Ato Yebegaeshet Nahusenay Fentahune	0.861223
1945	Ato Yebegaeshet Nahusnay Fentahun	Ato Yebegaeshet Nahusenaye Fentahun	0.823617
1946	Ato Yebegaeshet Nahusnay Fentahun	Ato Yebegashet Nahusenay Fentahun	0.810182
1947	Ato Yebegaeshet Nahusnay Fentahun	Ato Yebegashet Nahusnay Fantahun	0.801728
1949	Ato Yebegaeshet Nahusenaye Fantahune	Ato Yebegaeshet Nahusenaye Fantahun	0.958998
1950	Ato Yebegaeshet Nahusenaye Fantahune	Ato Yebegaeshet Nahusenay Fantahune	0.923009
1951	Ato Yebegaeshet Nahusenaye Fantahune	Ato Yebegashet Nahusenaye Fantahune	0.914688
1952	Ato Yebegaeshet Nahusenaye Fantahune	Ato Yebegaeshet Nahusenaye Fentahune	0.893085
1953	Ato Yebegaeshet Nahusenaye Fantahune	Ato Yebegaeshet Nahusenay Fantahun	0.880456
1954	Ato Yebegaeshet Nahusenaye Fantahune	Ato Yebegashet Nahusenaye Fantahun	0.871507
1955	Ato Yebegaeshet Nahusenaye Fantahune	Ato Yebegaeshet Nahusenai Fantahune	0.859966
1956	Ato Yebegaeshet Nahusenaye Fantahune	Ato Yebegaeshet Nahusenaye Fentahun	0.850303

	Left_side	right_side	similairity
1957	Ato Yebegaeshet Nahusenaye Fantahune	Ato Yebegashet Nahusenay Fantahune	0.834942
1959	Ato Yebegaeshet Nahusenai Fantahune	Ato Yebegashet Nahusenai Fantahune	0.918318
1960	Ato Yebegaeshet Nahusenai Fantahune	Ato Yebegaeshet Nahusenai Fentahune	0.897536
1961	Ato Yebegaeshet Nahusenai Fantahune	Ato Yebegashet Nahusenai Fantahun	0.87705
1962	Ato Yebegaeshet Nahusenai Fantahune	Ato Yebegaeshet Nahusenay Fantahune	0.868434
1963	Ato Yebegaeshet Nahusenai Fantahune	Ato Yebegaeshet Nahusenaye Fantahune	0.859966
1964	Ato Yebegaeshet Nahusenai Fantahune	Ato Yebegaeshet Nahusenai Fentahun	0.856629
1965	Ato Yebegaeshet Nahusenai Fantahune	Ato Yebegaeshet Nahusenay Fantahun	0.826181
1966	Ato Yebegaeshet Nahusenai Fantahune	Ato Yebegaeshet Nahusenaye Fantahun	0.817855
1968	Ato Yebegashet Nahusenay Fantahun	Ato Yebegashet Nahusenay Fantahune	0.955776
1969	Ato Yebegashet Nahusenay Fantahun	Ato Yebegashet Nahusenaye Fantahun	0.915801
1970	Ato Yebegashet Nahusenay Fantahun	Ato Yebegaeshet Nahusenay Fantahun	0.909919
1971	Ato Yebegashet Nahusenay Fantahun	Ato Yebegashet Nahusnay Fantahun	0.895338
1972	Ato Yebegashet Nahusenay Fantahun	Ato Yebegashet Nahusenay Fentahun	0.880642
1973	Ato Yebegashet Nahusenay Fantahun	Ato Yebegashet Nahusenaye Fantahune	0.873664
1974	Ato Yebegashet Nahusenay Fantahun	Ato Yebegaeshet Nahusenay Fantahune	0.868864
1975	Ato Yebegashet Nahusenay Fantahun	Ato Yebegashet Nahusenai Fantahun	0.856433
1976	Ato Yebegashet Nahusenay Fantahun	Ato Yebegashet Nahusnay Fantahune	0.854064
1978	Ato Yebegashet Nahusnay Fantahun	Ato Yebegashet Nahusnay Fantahune	0.957475
1979	Ato Yebegashet Nahusnay Fantahun	Ato Yebegashet Nahusenay Fantahun	0.895338
1980	Ato Yebegashet Nahusnay Fantahun	Ato Yebegashet Nahusnay Fentahun	0.885321
1981	Ato Yebegashet Nahusnay Fantahun	Ato Yebegashet Nahusenay Fantahune	0.853481
1982	Ato Yebegashet Nahusnay Fantahun	Ato Yebegashet Nahusnay Fentahune	0.844717
1983	Ato Yebegashet Nahusnay Fantahun	Ato Yebegashet Nahusenaye Fantahun	0.813711
1984	Ato Yebegashet Nahusnay Fantahun	Ato Yebegaeshet Nahusenay Fantahun	0.809423
1985	Ato Yebegashet Nahusnay Fantahun	Ato Yebegaeshet Nahusnay Fentahun	0.801728
1987	Ato Yebegashet Nahusenaye Fantahun	Ato Yebegashet Nahusenaye Fantahune	0.956695
1988	Ato Yebegashet Nahusenaye Fantahun	Ato Yebegashet Nahusenay Fantahun	0.915801
1989	Ato Yebegashet Nahusenaye Fantahun	Ato Yebegaeshet Nahusenaye Fantahun	0.911769
1990	Ato Yebegashet Nahusenaye Fantahun	Ato Yebegashet Nahusenaye Fentahun	0.883173
1991	Ato Yebegashet Nahusenaye Fantahun	Ato Yebegashet Nahusenay Fantahune	0.873341
1992	Ato Yebegashet Nahusenaye Fantahun	Ato Yebegaeshet Nahusenaye Fantahune	0.871507
1993	Ato Yebegashet Nahusenaye Fantahun	Ato Yebegashet Nahusenai Fantahun	0.847305
1994	Ato Yebegashet Nahusenaye Fantahun	Ato Yebegashet Nahusenaye Fentahune	0.84186
1995	Ato Yebegashet Nahusenaye Fantahun	Ato Yebegaeshet Nahusenay Fantahun	0.828745
1997	Ato Yebegashet Nahusenai Fantahun	Ato Yebegashet Nahusenai Fantahune	0.958618
1998	Ato Yebegashet Nahusenai Fantahun	Ato Yebegashet Nahusenai Fentahun	0.888467
1999	Ato Yebegashet Nahusenai Fantahun	Ato Yebegaeshet Nahusenai Fantahune	0.87705

1.1.2 Experiment II: - N-Gram based string matching

Test Scenario II: - matches_df[matches_df['similairity'] > 0.99999]

In this experiment, the similarities of the list of instance are tested with Similarity > 0.99999 scores of the attributes. Performing selection Algorithm to predicate before for removing all exact matches.

```
#!/usr/bin/env python
# coding: utf-8
# In[4]:

import sparse_dot_topn.sparse_dot_topn as ct
from scipy.sparse import csr_matrix
import pandas as pd
import numpy as np

# In[5]:
df=pd.read_csv('fuzzy.csv')

# In[6]:
df.head()

# In[7]:
import re

def ngrams(string, n=3):
    string = re.sub(r'[,-./]|\sBD',r'', string)
    ngrams = zip(*[string[i:] for i in range(n)])
    return [''.join(ngram) for ngram in ngrams]

# In[19]:
from sklearn.feature_extraction.text import TfidfVectorizer

Names = df['Names']
vectorizer = TfidfVectorizer(min_df=1, analyzer=ngrams)
tf_idf_matrix = vectorizer.fit_transform(room_ty)

# In[20]:
print(tf_idf_matrix[0])

# In[21]:
ngrams('Wedo')
```

```
# In[22]:
# calculate the similarity between two vectors of TF-IDF values the Cosine Similarity is usually used.
# result matrix in a very sparse terms and Scikit-learn deals with this nicely by returning a sparse CSR matrix.

def awesome_cossim_top(A, B, ntop, lower_bound=0):
    # force A and B as a CSR matrix.
    # If they have already been CSR, there is no overhead
    A = A.tocsr()
    B = B.tocsr()
    M, _ = A.shape
    _, N = B.shape

    idx_dtype = np.int32

    nnz_max = M*ntop

    indptr = np.zeros(M+1, dtype=idx_dtype)
    indices = np.zeros(nnz_max, dtype=idx_dtype)
    data = np.zeros(nnz_max, dtype=A.dtype)

    ct.sparse_dot_topn(
        M, N, np.asarray(A.indptr, dtype=idx_dtype),
        np.asarray(A.indices, dtype=idx_dtype),
        A.data,
        np.asarray(B.indptr, dtype=idx_dtype),
        np.asarray(B.indices, dtype=idx_dtype),
        B.data,
        ntop,
        lower_bound,
        indptr, indices, data)

    return csr_matrix((data,indices,indptr),shape=(M,N))
```

```
# In[23]:
#  Run the optimized cosine similarity function.
#  Only stores the top 10 most similar items with a similarity above 0.8
import time
t1 = time.time()
matches = awesome_cossim_top(tf_idf_matrix, tf_idf_matrix.transpose(), 10, 0.8)
t = time.time()-t1
print("SELFTIMED:", t)

# In[37]:

def get_matches_df(sparse_matrix, name_vector, top=100):
    non_zeros = sparse_matrix.nonzero()

    sparserows = non_zeros[0]
    sparsecols = non_zeros[1]

    if top:
        nr_matches = top
    else:
        nr_matches = sparsecols.size

    left_side = np.empty([nr_matches], dtype=object)
    right_side = np.empty([nr_matches], dtype=object)
    similairity = np.zeros(nr_matches)

    for index in range(0, nr_matches):
        left_side[index] = name_vector[sparserows[index]]
        right_side[index] = name_vector[sparsecols[index]]
        similairity[index] = sparse_matrix.data[index]

    return pd.DataFrame({'left_side': left_side,
                         'right_side': right_side,
                          'similairity': similairity})
```

```
# In[40]:

matches_df = get_matches_df(matches, Names, top=2000)
matches_df = matches_df[matches_df['similairity'] > 0.99999] # For removing all exact matches
matches_df

# In[41]:

matches_df.to_csv('Final_out.csv')

# In[ ]:
```

Table 4.5.2 Result of N-Gram based string matching on matches_df[matches_df['similairity'] > 0.99999] scenario

The output in table form with four column. The first column indicate the Index number that the first sample list found. The Second and the third are shown the similarities name predict by algorithm with comparing the sample dat on left side and right side. The final Column two name with gives the similarity in digits.

	left_side	right_side	similairity
0	HrE Wro Demitu Hambisa	HrE Wro Demitu Hambisa	1
2	H/E Ato Shimalis Abdisa	H/E Ato Shimalis Abdisa	1
3	H/E Dr Arkebe Ekubay	H/E Dr Arkebe Ekubay	1
5	H/E Ato Tekleweld Atinafu	H/E Ato Tekleweld Atinafu	1
6	H/E Ato Desse Dake	H/E Ato Desse Dake	1
7	H/E Ato Temesgen Mekonen	H/E Ato Temesgen Mekonen	1
8	H/E Dr Ambachew Mekonen	H/E Dr Ambachew Mekonen	1
10	H/E Ato Melese Alemu	H/E Ato Melese Alemu	1
11	H/E Ato Tefera Daribew	H/E Ato Tefera Daribew	1
12	H/E Ato Fikadu Tesema	H/E Ato Fikadu Tesema	1
13	H/E Ato Binalf Andualem	H/E Ato Binalf Andualem	1
14	H/E Ato Zadig Abreham	H/E Ato Zadig Abreham	1
15	H/E Ato Temesgen Burka	H/E Ato Temesgen Burka	1
16	H/E Ato Sadat Nasha	H/E Ato Sadat Nasha	1
17	H/E Ato Getachew Ambaye	H/E Ato Getachew Ambaye	1
18	H/E Ato Motuma Mekasa	H/E Ato Motuma Mekasa	1
20	H/E Ato Tesfahun Gobezay	H/E Ato Tesfahun Gobezay	1
22	H/E Ato Hayilay Birhane Tesema	H/E Ato Hayilay Birhane Tesema	1
23	H/E Ato Werku Guangul	H/E Ato Werku Guangul	1
25	H/E Ato Fiseha Yitagesu	H/E Ato Fiseha Yitagesu	1
29	H/E Ato Isayas Kasa	H/E Ato Isayas Kasa	1
31	H/E Ato Mamo Asmelealemiretu	H/E Ato Mamo Asmelealemiretu	1
32	H/E Ato Tesfaye Yegezu	H/E Ato Tesfaye Yegezu	1
33	H/E Ato Chane Shimeka	H/E Ato Chane Shimeka	1
34	H/E Ato Chane Lema	H/E Ato Chane Lema	1
35	H/E Ato G/Egziabeher Ariaya	H/E Ato G/Egziabeher Ariaya	1
36	HrE w/ro Muferiat Kemal	HrE w/ro Muferiat Kemal	1
37	H/E Ato kefyalew Tefera	H/E Ato kefyalew Tefera	1
39	H/E Ato Zeinu Jemal	H/E Ato Zeinu Jemal	1
41	H/E Dr Siyum Mesfin	H/E Dr Siyum Mesfin	1
42	HrE W/ro Almaz Mekonen	HrE W/ro Almaz Mekonen	1
43	Dr G/Igziaber G/yohanis Adera	Dr G/Igziaber G/yohanis Adera	1
44	HrE Eng Ayisha Mahamed Musa	HrE Eng Ayisha Mahamed Musa	1

	left_side	right_side	similairity
45	HrE Ambassador Lelalem G/yohanes	HrE Ambassador Lelalem G/yohanes	1
46	H/E Ato Fiseha Woldesenbet	H/E Ato Fiseha Woldesenbet	1
47	H/E Dr werkeneh Gebeyew	H/E Dr werkeneh Gebeyew	1
48	H/E W/ro Hirut Zemene	H/E W/ro Hirut Zemene	1
49	HrE Ambassador Birtukan Ayano	HrE Ambassador Birtukan Ayano	1
50	H/E Dr Aklilu H/Michael	H/E Dr Aklilu H/Michael	1
52	H/E Dr Markos Tekle	H/E Dr Markos Tekle	1
53	H/E Ato Ahimed Shede	H/E Ato Ahimed Shede	1
54	Dr Eng Sileshi Bekele Awulachew	Dr Eng Sileshi Bekele Awulachew	1
56	H/E Ato Admasu Nebebe Gedamu	H/E Ato Admasu Nebebe Gedamu	1
58	H/E Ato Iyob Tekalegn	H/E Ato Iyob Tekalegn	1
59	H/E Dr Teshome Tafese	H/E Dr Teshome Tafese	1
61	Dr Bekele Bulado Bukana	Dr Bekele Bulado Bukana	1
63	Ato Endalkachew Miheratu Gashano	Ato Endalkachew Miheratu Gashano	1
64	H/E Ato Birhanu Tsegaye	H/E Ato Birhanu Tsegaye	1
66	H/E Ato Gelata Seyum	H/E Ato Gelata Seyum	1
67	H/E Admasu Ango	H/E Admasu Ango	1
68	H/E Dr Gedion Timotios	H/E Dr Gedion Timotios	1
69	H/E Ato Umer Husen	H/E Ato Umer Husen	1
70	H/E Dr G/Egziaber G/yuhanis	H/E Dr G/Egziaber G/yuhanis	1
71	H/E Ato Sani Redi Ahemed	H/E Ato Sani Redi Ahemed	1
72	HrE W/ro Aynalem Nigus	HrE W/ro Aynalem Nigus	1
73	H/E Dr Kaba Urgesa Disa	H/E Dr Kaba Urgesa Disa	1
74	Dr Iyasu Abreham	Dr Iyasu Abreham	1
77	H/E W/ro Fetilewer G/Igziaber	H/E W/ro Fetilewer G/Igziaber	1
78	Dr Fafrehiwot Weldehana Bayu	Dr Fafrehiwot Weldehana Bayu	1
79	H/E Ato Yohanes Dinkayehu	H/E Ato Yohanes Dinkayehu	1
80	H/E Ato Eshetu Asfaw W/Hawaria	H/E Ato Eshetu Asfaw W/Hawaria	1
81	H/E Ambassador Misganu Arega	H/E Ambassador Misganu Arega	1
82	H/E Dr Eng Getahun Mekuria	H/E Dr Eng Getahun Mekuria	1
84	H/E Ato Isayas Tola	H/E Ato Isayas Tola	1
85	H/E Ato Jemal Beker	H/E Ato Jemal Beker	1
87	H/E Dr Shumete Gezachew W/amanuel	H/E Dr Shumete Gezachew W/amanuel	1
88	HrE W/ro Dagemawit Moges	HrE W/ro Dagemawit Moges	1
89	HrE W/ro Hiwot Mosisa Deresa	HrE W/ro Hiwot Mosisa Deresa	1
90	HrE W/ro Mulu G/Eziaber G/Hiwet	HrE W/ro Mulu G/Eziaber G/Hiwet	1
91	H/E Ato Hasen Abdul Kadir	H/E Ato Hasen Abdul Kadir	1
92	H/E Ato Awel Wegris Mehamed	H/E Ato Awel Wegris Mehamed	1
93	H/E Ato Jantirar Abay Yigzaw	H/E Ato Jantirar Abay Yigzaw	1
94	H/E Ato Tazer G/Egziaber	H/E Ato Tazer G/Egziaber	1
97	H/E Kalid Abdurehama	H/E Kalid Abdurehama	1

	left_side	right_side	similairity
98	H/E Kasahun Gofe	H/E Kasahun Gofe	1
99	H/E Dr Eng Silashi Bekele	H/E Dr Eng Silashi Bekele	1
100	H/E Dr Frehiwot Weldehana	H/E Dr Frehiwot Weldehana	1
102	Ato Abay Tsehaye Abay	Ato Abay Tsehaye Abay	1
104	H/E Dr Negash Wakishaw	H/E Dr Negash Wakishaw	1
106	H/E Dr Abreham Adugna	H/E Dr Abreham Adugna	1
107	H/E Dr samuel Hurkato	H/E Dr samuel Hurkato	1
108	H/E Asefa Afta	H/E Asefa Afta	1
109	H/E Dr Kongitut Lam	H/E Dr Kongitut Lam	1
110	H/E Dr Tilaye Getu Imbaye	H/E Dr Tilaye Getu Imbaye	1
111	H/E Ato Mehamed Ahmed Hasen	H/E Ato Mehamed Ahmed Hasen	1
112	H/E Dr Yusuf	H/E Dr Yusuf	1
113	H/E Dr Hirut Weldemariam Teketel	H/E Dr Hirut Weldemariam Teketel	1
115	H/E Dr Samuel Kifle Kidane	H/E Dr Samuel Kifle Kidane	1
116	H/E Prs Afewerk Kasa	H/E Prs Afewerk Kasa	1
117	H/E Dr Abdiwas Abdulahi	H/E Dr Abdiwas Abdulahi	1
119	H/E Dr Amir Aman	H/E Dr Amir Aman	1
121	HrE W/ro Sahirla Abdulahi	HrE W/ro Sahirla Abdulahi	1
123	Dr Liya Tadese	Dr Liya Tadese	1
124	Dr Liya Tadese	Dr Liya Tadese	1
125	HrE W/ro yalem tsegaye	HrE W/ro yalem tsegaye	1
126	HrE W/ro Alemitu Umedu	HrE W/ro Alemitu Umedu	1
127	HrE W/ro Simegn Wube Haile	HrE W/ro Simegn Wube Haile	1
128	HrE W/ro Hiwot Haile	HrE W/ro Hiwot Haile	1
129	H/E Dr Erboge Tesfaye	H/E Dr Erboge Tesfaye	1
131	H/E Ato Getahun Abdisa	H/E Ato Getahun Abdisa	1
132	H/E W/ro Ayelech Ashte W/Semayat	H/E W/ro Ayelech Ashte W/Semayat	1
133	H/E Dr Hirut Kasawu	H/E Dr Hirut Kasawu	1
134	HrE W/ro Buzena Alkedir	HrE W/ro Buzena Alkedir	1
136	HrE w/ro Bizunesh Meseret	HrE w/ro Bizunesh Meseret	1
137	H/E Ato Habtamu Sisay	H/E Ato Habtamu Sisay	1
138	HrE W/ro Adanech Abebe Dosa	HrE W/ro Adanech Abebe Dosa	1
139	H/E Ato Zemede Tefera W/Giorgis	H/E Ato Zemede Tefera W/Giorgis	1
140	Alebel Dese Moges	Alebel Dese Moges	1
142	H/E Ato Mehamed Abdu Ahmed	H/E Ato Mehamed Abdu Ahmed	1
143	H/E W/ro Mihiret Minaseb Hailu	H/E W/ro Mihiret Minaseb Hailu	1
145	H/E Dr Fisum Asefa	H/E Dr Fisum Asefa	1
146	H/E Getachew Adem	H/E Getachew Adem	1
147	H/E W/ro Mesret Meskel	H/E W/ro Mesret Meskel	1
148	Ato Fisum Arega	Ato Fisum Arega	1
149	Ato temesgen Tilahun	Ato temesgen Tilahun	1

	left_side	right_side	similairity
150	Ato Anteneh Alemu	Ato Anteneh Alemu	1
151	Ato Anteneh Alemu	Ato Anteneh Alemu	1
152	Ato Anteneh Alemu	Ato Anteneh Alemu	1
153	Ato Teka G/Yesus	Ato Teka G/Yesus	1
154	W/ri Lelise Lemi	W/ri Lelise Lemi	1
155	Ato Yilma Belachew	Ato Yilma Belachew	1
156	Ato Yilma Belachew	Ato Yilma Belachew	1
157	Ato Shiferaw Selemon	Ato Shiferaw Selemon	1
158	Ato Aman Asegedom	Ato Aman Asegedom	1
159	Ato Bezabeh G/Yes	Ato Bezabeh G/Yes	1
160	Ato Birhanu Feyisa	Ato Birhanu Feyisa	1
161	Ato Birhanu Feyisa	Ato Birhanu Feyisa	1
163	Dr Fikre Desalegn	Dr Fikre Desalegn	1
164	Dr Fikre Desalegn	Dr Fikre Desalegn	1
165	Ambassador Dr Adis Alem Balema	Ambassador Dr Adis Alem Balema	1
166	H/E Ato Tsegaye Mamo Gastet	H/E Ato Tsegaye Mamo Gastet	1
168	Ato Bezabeh G/Silase Tesfaye	Ato Bezabeh G/Silase Tesfaye	1
169	Ato Bezabeh G/Silase Tesfaye	Ato Bezabeh G/Silase Tesfaye	1
171	H/E Ato Demise Shito Gondere	H/E Ato Demise Shito Gondere	1
173	Ato Haftom G/Egziaber Hagos	Ato Haftom G/Egziaber Hagos	1
174	H/E Ato Tewelde Berhe Beyene	H/E Ato Tewelde Berhe Beyene	1
176	Ato mekonen Yai	Ato mekonen Yai	1
177	Ato G/Meskel Chala	Ato G/Meskel Chala	1
178	Ato G/Meskel Chala	Ato G/Meskel Chala	1
179	Ato Mengistu Yitbarek	Ato Mengistu Yitbarek	1
180	Ato Mengistu Yitbarek	Ato Mengistu Yitbarek	1
181	Dr Takele Chane	Dr Takele Chane	1
183	Ato Hailekiros Debesay Melkamu	Ato Hailekiros Debesay Melkamu	1
184	Ato Hailekiros Debesay Melkamu	Ato Hailekiros Debesay Melkamu	1
187	Ato Zekarias erkola yimam	Ato Zekarias erkola yimam	1
188	Ato Mehamed Husen Seyid	Ato Mehamed Husen Seyid	1
190	Ato Dhaba Oria Gelan	Ato Dhaba Oria Gelan	1
191	Ato Mandefro Eshete W/Mikael	Ato Mandefro Eshete W/Mikael	1
192	Ato Tilahun Bekele	Ato Tilahun Bekele	1
195	Prf Fikadu Beyene Aleka	Prf Fikadu Beyene Aleka	1
196	W/ro Firenash Mekuria Gobena	W/ro Firenash Mekuria Gobena	1
198	Ato Kebede Yimam Dawud	Ato Kebede Yimam Dawud	1
199	Dr Melese Mariye	Dr Melese Mariye	1
200	Dr Melese Mariye	Dr Melese Mariye	1
201	Dr Feleke Weldeyes	Dr Feleke Weldeyes	1
202	Dr Feleke Weldeyes	Dr Feleke Weldeyes	1

	left_side	right_side	similairity
204	Dr Abiyot Birhanu	Dr Abiyot Birhanu	1
205	Dr Abiyot Birhanu	Dr Abiyot Birhanu	1
207	Dr Agena Anjelo Tanga	Dr Agena Anjelo Tanga	1
209	Ato kumera Wakjira Gemeda	Ato kumera Wakjira Gemeda	1
210	Ato Selomon Mekonen Bula	Ato Selomon Mekonen Bula	1
212	Dr Ephrem Tekle Limango	Dr Ephrem Tekle Limango	1
213	Dr Yinager Dese Belay	Dr Yinager Dese Belay	1
214	Dr Yinager Dese Belay	Dr Yinager Dese Belay	1
215	Ato yemane Yoseph Tesfaye	Ato yemane Yoseph Tesfaye	1
216	Ato Tiruneh Mitaf Guta	Ato Tiruneh Mitaf Guta	1
218	W/ri Lensa Mekonen	W/ri Lensa Mekonen	1
219	Ato Sertse Firesebehat	Ato Sertse Firesebehat	1
220	Dr Hagos Abreha	Dr Hagos Abreha	1
221	Dr Hagos Abreha	Dr Hagos Abreha	1
222	HrE W/ro Werkinesh Biru	HrE W/ro Werkinesh Biru	1
223	Ato Endashaw Tasew W/Giorgis	Ato Endashaw Tasew W/Giorgis	1
225	Ato Melaku Fenta Balcha	Ato Melaku Fenta Balcha	1
226	Ato Melaku Fenta Balcha	Ato Melaku Fenta Balcha	1
227	Ato Yihedeg Siyum W/Mariam	Ato Yihedeg Siyum W/Mariam	1
228	Ato Tekola Ayifokeru Yimeru	Ato Tekola Ayifokeru Yimeru	1
229	Ato Kenea Yadeta Irena	Ato Kenea Yadeta Irena	1
230	Ato Kenea Yadeta Irena	Ato Kenea Yadeta Irena	1
232	Ato Mulugeta Werku	Ato Mulugeta Werku	1
233	Ato Mulugeta Werku	Ato Mulugeta Werku	1
235	H/E Ato Miteku Kasa	H/E Ato Miteku Kasa	1
236	Ato Damena Darota	Ato Damena Darota	1
239	Tadelech Dalecho	Tadelech Dalecho	1
241	Ato Desalegn G/yohanes	Ato Desalegn G/yohanes	1
242	W/ro Ephrah Ali Musa	W/ro Ephrah Ali Musa	1
243	Ato Tefera Fikre	Ato Tefera Fikre	1
245	Dr Abreham Belay	Dr Abreham Belay	1
246	Dr Abreham Belay	Dr Abreham Belay	1
247	Dr Abreham Belay	Dr Abreham Belay	1
248	Dr Abreham Belay	Dr Abreham Belay	1
249	Dr Abreham Belay	Dr Abreham Belay	1
250	Ato Werku Gachena negera	Ato Werku Gachena negera	1
251	Ato kidanemariam Tsadik	Ato kidanemariam Tsadik	1
252	Ato Birhane w/Kiros	Ato Birhane w/Kiros	1
253	Ato Isayas W/Giorgis	Ato Isayas W/Giorgis	1
254	Ato Isayas W/Giorgis	Ato Isayas W/Giorgis	1
255	Ato Isayas W/Giorgis	Ato Isayas W/Giorgis	1

	left_side	right_side	similairity
256	Ato Isayas W/Giorgis	Ato Isayas W/Giorgis	1
257	Ato Tamiru Ginbeto	Ato Tamiru Ginbeto	1
258	Ato Tamiru Ginbeto	Ato Tamiru Ginbeto	1
259	Ato Tamiru Ginbeto	Ato Tamiru Ginbeto	1
261	General Adem Mehamed	General Adem Mehamed	1
264	Commissioner Demelash Michael	Commissioner Demelash Michael	1
266	Ato Kebede Chane	Ato Kebede Chane	1
268	Ato Nega Berhe	Ato Nega Berhe	1
270	Ato Addisu Kebenesa	Ato Addisu Kebenesa	1
272	AmbassadorArega Hailu	AmbassadorArega Hailu	1
273	w/ro Selamawit Dawit	w/ro Selamawit Dawit	1
275	Ato Getahun Nana Jembere	Ato Getahun Nana Jembere	1
277	Ato Mehamed Indris	Ato Mehamed Indris	1
278	Ato Mehamed Indris	Ato Mehamed Indris	1
279	W/ro Marta liwuji Anteneh	W/ro Marta liwuji Anteneh	1
280	Ato Jonse Degefu leta	Ato Jonse Degefu leta	1
281	Ato Yeyigezu Daba	Ato Yeyigezu Daba	1
283	Ato Tesfaye Birhanu	Ato Tesfaye Birhanu	1
284	Ato Tesfaye Birhanu	Ato Tesfaye Birhanu	1
286	Ato Selemon Aynimear	Ato Selemon Aynimear	1
287	Ato Gashe Yemaneh	Ato Gashe Yemaneh	1
288	Ato Gashe Yemaneh	Ato Gashe Yemaneh	1
290	Ato Beyene G/Meskel Mada	Ato Beyene G/Meskel Mada	1
292	Ato Habtamu H/Michael	Ato Habtamu H/Michael	1
293	Ato Habtamu H/Michael	Ato Habtamu H/Michael	1
294	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
295	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
296	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
297	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
298	Brigadier General Tigabu Fetile	Brigadier General Tigabu Fetile	1
300	General Tena Kurunde	General Tena Kurunde	1
301	Ato Abdulaziz Ahmed	Ato Abdulaziz Ahmed	1
304	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
305	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
306	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
307	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
308	Lieutenant Colonel Shegaw Mulugeta	Lieutenant Colonel Shegaw Mulugeta	1
309	Brigadier General Hadigu G/Georgis	Brigadier General Hadigu G/Georgis	1
310	Ato Awal Ali	Ato Awal Ali	1
311	Ato Ermias Yemanebirhan	Ato Ermias Yemanebirhan	1
313	Ato Andalu Mosisa waktola	Ato Andalu Mosisa waktola	1

	left_side	right_side	similairity
314	Ato Jima Dulbo Denbel	Ato Jima Dulbo Denbel	1
316	Ato Faskaw Molla	Ato Faskaw Molla	1
318	Ato Mersa Gebreyohanis	Ato Mersa Gebreyohanis	1
319	Ato Mersa Gebreyohanis	Ato Mersa Gebreyohanis	1
321	Ato Muluken Amare Adinew	Ato Muluken Amare Adinew	1
322	Ato Muluken Amare Adinew	Ato Muluken Amare Adinew	1
323	Ato Ashimawi Seyifu	Ato Ashimawi Seyifu	1
325	Ato Abreham Niguse	Ato Abreham Niguse	1
326	Ato Abreham Niguse	Ato Abreham Niguse	1
328	Ato Hamid Kiniso	Ato Hamid Kiniso	1
330	Ato Jemal Abaso	Ato Jemal Abaso	1
331	Assistant Commissioner Yaregal Ademe	Assistant Commissioner Yaregal Ademe	1
332	Commander Wendimu Chama	Commander Wendimu Chama	1
334	Commander Desta Asmelash	Commander Desta Asmelash	1
336	Ato Amba Degefe Bula	Ato Amba Degefe Bula	1
337	Ato Mitiku Mada Dilnesa	Ato Mitiku Mada Dilnesa	1
339	Ato Tesfalem Yihedeg G/Kidan	Ato Tesfalem Yihedeg G/Kidan	1
341	Ato Mesfin Abebe Bedye	Ato Mesfin Abebe Bedye	1
342	Ato Zekarias Erkola	Ato Zekarias Erkola	1
343	Ato Zekarias Erkola	Ato Zekarias Erkola	1
345	Ato Mulugeta Ayalew	Ato Mulugeta Ayalew	1
347	W/rt Serkalem Iniyew	W/rt Serkalem Iniyew	1
348	W/rt Serkalem Iniyew	W/rt Serkalem Iniyew	1
349	Ato Zinabu Tadese	Ato Zinabu Tadese	1
351	Ato Yoseph Alemu	Ato Yoseph Alemu	1
352	Ato Belay Wedusha	Ato Belay Wedusha	1
353	Ato Belay Wedusha	Ato Belay Wedusha	1
354	Dr Terzu Daya	Dr Terzu Daya	1
355	Dr Terzu Daya	Dr Terzu Daya	1
357	Ato Usman Sufur Siraj	Ato Usman Sufur Siraj	1
358	Ato Abdi Mumedu	Ato Abdi Mumedu	1
359	Ato Abdi Mumedu	Ato Abdi Mumedu	1
360	Dr Mandefro Niguse	Dr Mandefro Niguse	1
361	Dr Mandefro Niguse	Dr Mandefro Niguse	1
362	Dr Mandefro Niguse	Dr Mandefro Niguse	1
363	Dr Diraba Geleti	Dr Diraba Geleti	1
365	Dr Chilot Yirga	Dr Chilot Yirga	1
368	Ato Kalid Bomba	Ato Kalid Bomba	1
369	Ato Kalid Bomba	Ato Kalid Bomba	1
370	Ato Kalid Bomba	Ato Kalid Bomba	1
371	Dr Dagnache Beyene	Dr Dagnache Beyene	1

	left_side	right_side	similairity
373	Dr Adugna Dabela	Dr Adugna Dabela	1
374	Ato Shafi Umer Aga	Ato Shafi Umer Aga	1
375	Ato Shafi Umer Aga	Ato Shafi Umer Aga	1
377	Ato Awugachew Teshome Kifle	Ato Awugachew Teshome Kifle	1
378	Dr Mekuria Tadese	Dr Mekuria Tadese	1
380	Dr Mesfin Sahile Forsa	Dr Mesfin Sahile Forsa	1
382	Dr Esayas Tesema	Dr Esayas Tesema	1
383	Ato Manyazewal Endashaw Guanegul	Ato Manyazewal Endashaw Guanegul	1
384	Ato Manyazewal Endashaw Guanegul	Ato Manyazewal Endashaw Guanegul	1
385	Ato Bereket Semion W/Gerima	Ato Bereket Semion W/Gerima	1
387	Dr Marta Yami	Dr Marta Yami	1
388	Ato Sileshi Lema Bekele	Ato Sileshi Lema Bekele	1
390	Ato Yared Mesfin Tefera	Ato Yared Mesfin Tefera	1
392	Ato Niguse Godana Mideksa	Ato Niguse Godana Mideksa	1
393	Ato Melese Mekuria Bekele	Ato Melese Mekuria Bekele	1
395	Ato Bogale Feleke Temesgen	Ato Bogale Feleke Temesgen	1
397	Ato Hailekiros Debesay	Ato Hailekiros Debesay	1
398	Ato Hailekiros Debesay	Ato Hailekiros Debesay	1
401	Ato Muhamed Husen	Ato Muhamed Husen	1
402	Ato Muhamed Husen	Ato Muhamed Husen	1
403	Ato Werkineh Desalegn	Ato Werkineh Desalegn	1
404	Ato Werkineh Desalegn	Ato Werkineh Desalegn	1
405	Ato Fikadu Haile	Ato Fikadu Haile	1
406	Ato Fikadu Haile	Ato Fikadu Haile	1
407	Ato Fikadu Haile	Ato Fikadu Haile	1
408	Ato Kahisa G/Medin	Ato Kahisa G/Medin	1
410	Ato Endalew Mekonen	Ato Endalew Mekonen	1
412	Ato Bonsa Bayisa	Ato Bonsa Bayisa	1
413	Ato Bonsa Bayisa	Ato Bonsa Bayisa	1
414	Ato Bonsa Bayisa	Ato Bonsa Bayisa	1
415	Ato Araya Fiseha Gezahegn	Ato Araya Fiseha Gezahegn	1
417	Ato Getnet Tsegemeleak G/Yohanis	Ato Getnet Tsegemeleak G/Yohanis	1
418	Ato samuel Halala	Ato samuel Halala	1
419	Ato Deyasa Leta Merga	Ato Deyasa Leta Merga	1
420	W/ro Simret Girma	W/ro Simret Girma	1
421	W/ro Simret Girma	W/ro Simret Girma	1
422	W/ro Simret Girma	W/ro Simret Girma	1
423	Ato Hadushom Tium	Ato Hadushom Tium	1
424	Ato Hadushom Tium	Ato Hadushom Tium	1
426	Ato Hailesilase Warese	Ato Hailesilase Warese	1
427	Ato Hailesilase Warese	Ato Hailesilase Warese	1

	left_side	right_side	similairity
428	Dr Tekeba Ishetu	Dr Tekeba Ishetu	1
429	Ato Tadese Guta	Ato Tadese Guta	1
432	Ato Selomon Tadese	Ato Selomon Tadese	1
433	Ato Mesay G/Marim	Ato Mesay G/Marim	1
434	W/ro Belaynesh Kumsa	W/ro Belaynesh Kumsa	1
436	Ato Bekel Mekuria	Ato Bekel Mekuria	1
437	Eng Olero Opiyu Ujulu	Eng Olero Opiyu Ujulu	1
438	Ato Wendemagegn Negera	Ato Wendemagegn Negera	1
440	Ato Asifaw Abebe Irshaw	Ato Asifaw Abebe Irshaw	1
441	Ato Kelifa Husen Nesro	Ato Kelifa Husen Nesro	1
442	Ato Kelifa Husen Nesro	Ato Kelifa Husen Nesro	1
444	Ato Hadush Halefom	Ato Hadush Halefom	1
446	Ato Daniel Olani Mekonen	Ato Daniel Olani Mekonen	1
448	Dr Abdu Abagibe	Dr Abdu Abagibe	1
451	Ato Mulugeta Derbew	Ato Mulugeta Derbew	1
452	Ato Mulugeta Derbew	Ato Mulugeta Derbew	1
453	Ato Michael Teklu	Ato Michael Teklu	1
454	Ato Michael Teklu	Ato Michael Teklu	1
455	Ato Girma Alemar	Ato Girma Alemar	1
456	Ato Girma Alemar	Ato Girma Alemar	1
457	Ato Girma Alemar	Ato Girma Alemar	1
458	W/ro Meselech Wedajo	W/ro Meselech Wedajo	1
460	Ato Teshale Belihu	Ato Teshale Belihu	1
461	Ato Teshale Belihu	Ato Teshale Belihu	1
462	Ato Gashaw Tesfaye	Ato Gashaw Tesfaye	1
463	Ato Gashaw Tesfaye	Ato Gashaw Tesfaye	1
464	Dr Hulu Besha	Dr Hulu Besha	1
466	Ato Selomon Getachew	Ato Selomon Getachew	1
467	Dr Kasahun Tesfaye Geletu	Dr Kasahun Tesfaye Geletu	1
468	Dr Kasahun Tesfaye Geletu	Dr Kasahun Tesfaye Geletu	1
470	Dr Hailu Dadi Melka	Dr Hailu Dadi Melka	1
472	Ato Tewdros Bekele Gerbi	Ato Tewdros Bekele Gerbi	1
473	Ato Tewdros Bekele Gerbi	Ato Tewdros Bekele Gerbi	1
475	Dr Selomon Belay	Dr Selomon Belay	1
476	Dr Atakilti Gidey Abriha	Dr Atakilti Gidey Abriha	1
478	AtoYohanis Bekele Gezakegn	AtoYohanis Bekele Gezakegn	1
480	Ato Abdisa Yilma	Ato Abdisa Yilma	1
481	Ato Abdisa Yilma	Ato Abdisa Yilma	1
482	Ato Abdisa Yilma	Ato Abdisa Yilma	1
483	Ato Sandokan Debebe	Ato Sandokan Debebe	1
484	Ato Sandokan Debebe	Ato Sandokan Debebe	1

	left_side	right_side	similairity
485	Ato Teshome Sahilemariam	Ato Teshome Sahilemariam	1
487	Ato Muliken Kere	Ato Muliken Kere	1
488	Ato Abdisa Yadeta	Ato Abdisa Yadeta	1
489	Ato Abdisa Yadeta	Ato Abdisa Yadeta	1
491	Ato Dereje W/yohanis Abdi	Ato Dereje W/yohanis Abdi	1
492	W/ro Almaz Beyero Hirbaye	W/ro Almaz Beyero Hirbaye	1
495	Ato Yohanes Bekele	Ato Yohanes Bekele	1
496	Ato Reshid Mehamed	Ato Reshid Mehamed	1
498	Ato Yisihak Abera Reda	Ato Yisihak Abera Reda	1
499	Ato Shimeles Tamerat Debebe	Ato Shimeles Tamerat Debebe	1
500	Colonel Wesen Yeleh Hunegna Wutadeg	Colonel Wesen Yeleh Hunegna Wutadeg	1
501	Colonel Wesen Yeleh Hunegna Wutadeg	Colonel Wesen Yeleh Hunegna Wutadeg	1
502	Ato Zewdu Tekilay Aregawi	Ato Zewdu Tekilay Aregawi	1
504	Ato Shimalis Kibreab Zerufael	Ato Shimalis Kibreab Zerufael	1
505	Ato Mekonen Abera Tadese	Ato Mekonen Abera Tadese	1
506	Ato Mekonen Abera Tadese	Ato Mekonen Abera Tadese	1
508	Dr Sintayew W/Michael	Dr Sintayew W/Michael	1
511	Ato Henok Bogale	Ato Henok Bogale	1
512	Ato Henok Bogale	Ato Henok Bogale	1
513	Ato Abiy Getachew	Ato Abiy Getachew	1
515	Ato Yehualashet Jemere	Ato Yehualashet Jemere	1
516	Ato Yehualashet Jemere	Ato Yehualashet Jemere	1
517	Ato Yehualashet Jemere	Ato Yehualashet Jemere	1
518	Dr Belete Kebede	Dr Belete Kebede	1
521	Ato Fidel Abreham	Ato Fidel Abreham	1
522	Ato Habtamu Tegegn	Ato Habtamu Tegegn	1
523	Ato Mohamed Abdureheman	Ato Mohamed Abdureheman	1
525	Ato Sisay Bekele	Ato Sisay Bekele	1
527	Ato Alemayew Ayele	Ato Alemayew Ayele	1
529	Ato Daniel Mengiste	Ato Daniel Mengiste	1
531	Eng Tilahun Bireda	Eng Tilahun Bireda	1
533	W/ro Firehiwot Tiliku	W/ro Firehiwot Tiliku	1
534	W/ro Firehiwot Tiliku	W/ro Firehiwot Tiliku	1
535	Ato Ambachew Abate	Ato Ambachew Abate	1
536	Ato Ambachew Abate	Ato Ambachew Abate	1
537	Ato Mustefa kedir	Ato Mustefa kedir	1
538	Ato Abiy Weretaw	Ato Abiy Weretaw	1
539	Ato Abiy Weretaw	Ato Abiy Weretaw	1
540	Ato Abdur Ber Shemsu	Ato Abdur Ber Shemsu	1
541	Ato Reshad Kemal	Ato Reshad Kemal	1
542	Ato Reshad Kemal	Ato Reshad Kemal	1

	left_side	right_side	similairity
543	Ato Yirgalem Kumelt	Ato Yirgalem Kumelt	1
544	Ato Yirgalem Kumelt	Ato Yirgalem Kumelt	1
545	Ato Haileberhan Zena	Ato Haileberhan Zena	1
547	Ato Fantahun Hagos	Ato Fantahun Hagos	1
548	Ato Fantahun Hagos	Ato Fantahun Hagos	1
549	Ato Fantahun Hagos	Ato Fantahun Hagos	1
550	Ato Fantahun Hagos	Ato Fantahun Hagos	1
551	Dr Argaw Asha	Dr Argaw Asha	1
552	Dr Argaw Asha	Dr Argaw Asha	1
553	Ato Asmerom Tadese	Ato Asmerom Tadese	1
554	Ato Asmerom Tadese	Ato Asmerom Tadese	1
555	Ato Asmerom Tadese	Ato Asmerom Tadese	1
556	Ato Zenebe Kumo Geda	Ato Zenebe Kumo Geda	1
557	Ato Zenebe Kumo Geda	Ato Zenebe Kumo Geda	1
559	Ato Simelash Bezabeh	Ato Simelash Bezabeh	1
561	Ato Selomon Asefa Haile	Ato Selomon Asefa Haile	1
562	Ato Selomon Asefa Haile	Ato Selomon Asefa Haile	1
563	Ato Selomon Kebede Mamo	Ato Selomon Kebede Mamo	1
564	Ato Selomon Kebede Mamo	Ato Selomon Kebede Mamo	1
565	W/ro Rahel Hailu	W/ro Rahel Hailu	1
566	W/ro Rahel Hailu	W/ro Rahel Hailu	1
568	Ato Bahiru Ashene Gobe	Ato Bahiru Ashene Gobe	1
570	Ato Almawu Mengeste	Ato Almawu Mengeste	1
571	W/ro Seada Kededer	W/ro Seada Kededer	1
572	W/ro Seada Kededer	W/ro Seada Kededer	1
573	Dr Michalel Mehari Moges	Dr Michalel Mehari Moges	1
574	Ato Samuel Husen	Ato Samuel Husen	1
575	Dr Bashah Mogese	Dr Bashah Mogese	1
576	W/ro Shewanesh Demeke	W/ro Shewanesh Demeke	1
577	W/ro Shewanesh Demeke	W/ro Shewanesh Demeke	1
578	Ato Wana Wake	Ato Wana Wake	1
581	Dr Abreham Belay	Dr Abreham Belay	1
582	Dr Abreham Belay	Dr Abreham Belay	1
583	Dr Abreham Belay	Dr Abreham Belay	1
584	Dr Abreham Belay	Dr Abreham Belay	1
585	Dr Abreham Belay	Dr Abreham Belay	1
586	Ato Shiferaw Telila	Ato Shiferaw Telila	1
588	Dr Adanech yared Jilo	Dr Adanech yared Jilo	1
589	W/ro Hirut Biresa	W/ro Hirut Biresa	1
590	W/ro Hirut Biresa	W/ro Hirut Biresa	1
592	Ato Getachew Gizaw	Ato Getachew Gizaw	1

	left_side	right_side	similairity
595	Ato Fetene Teshome Tola	Ato Fetene Teshome Tola	1
596	Ato Fetene Teshome Tola	Ato Fetene Teshome Tola	1
598	Ato Kinfe Hailemariam Beyene	Ato Kinfe Hailemariam Beyene	1
599	Ato Kinfe Hailemariam Beyene	Ato Kinfe Hailemariam Beyene	1
601	Ato Tamene Hailu	Ato Tamene Hailu	1
603	Ato Mesay Demeke Zeleke	Ato Mesay Demeke Zeleke	1
604	Ato Tamiru Fikadu	Ato Tamiru Fikadu	1
605	Ato Tamiru Fikadu	Ato Tamiru Fikadu	1
606	Ato Ajanaw Fenta	Ato Ajanaw Fenta	1
607	Ato Ajanaw Fenta	Ato Ajanaw Fenta	1
608	W/ro Roman Gebresilase	W/ro Roman Gebresilase	1
611	W/ro Fikerte Tamir	W/ro Fikerte Tamir	1
612	AtoTagel Kenubeh	AtoTagel Kenubeh	1
615	Ato Getahun Moges	Ato Getahun Moges	1
616	Ato Getahun Moges	Ato Getahun Moges	1
617	Ato Masresha G/Silase Gidi	Ato Masresha G/Silase Gidi	1
618	Ato Masresha G/Silase Gidi	Ato Masresha G/Silase Gidi	1
620	Ato Tadese H/Mariam	Ato Tadese H/Mariam	1
621	Ato Tadese H/Mariam	Ato Tadese H/Mariam	1
622	Ato Araya G/Igziaber Mehari	Ato Araya G/Igziaber Mehari	1
624	Dr Zerihun Duresa	Dr Zerihun Duresa	1
625	Dr Zerihun Duresa	Dr Zerihun Duresa	1
627	Ato werke Getahun	Ato werke Getahun	1
628	Ato Temesgen Tilahun	Ato Temesgen Tilahun	1
629	Ato Temesgen Tilahun	Ato Temesgen Tilahun	1
630	Ato Temesgen Tilahun	Ato Temesgen Tilahun	1
633	Dr Adualem Adimase	Dr Adualem Adimase	1
634	Ato Tamirat Mola	Ato Tamirat Mola	1
636	Ato Getachew Negash Tekla	Ato Getachew Negash Tekla	1
637	Ato Getachew Negash Tekla	Ato Getachew Negash Tekla	1
639	Ato Alemishet Berihanemeskel	Ato Alemishet Berihanemeskel	1
640	Ato Eliyas Awato	Ato Eliyas Awato	1
641	Ato Habtamu Kibret Ijigu	Ato Habtamu Kibret Ijigu	1
642	Ato Habtamu Kibret Ijigu	Ato Habtamu Kibret Ijigu	1
644	Ato Teshome Lema	Ato Teshome Lema	1
647	Dr Admasu Shibiru	Dr Admasu Shibiru	1
648	Dr Admasu Shibiru	Dr Admasu Shibiru	1
649	W/ro Kefelech Denboba	W/ro Kefelech Denboba	1
652	D/r Tesfaye Muhiye Endiris	D/r Tesfaye Muhiye Endiris	1
654	Dr Nurlegn Tefera	Dr Nurlegn Tefera	1
655	Dr Lema Guta	Dr Lema Guta	1

	left_side	right_side	similairity
656	Ato Teshale Yadesa	Ato Teshale Yadesa	1
657	Ato Seyifu Areru	Ato Seyifu Areru	1
658	Ato Ineyew Getnet Bitew	Ato Ineyew Getnet Bitew	1
659	Ato Habtom G/Igziaber	Ato Habtom G/Igziaber	1
660	W/ro Heran Gerba	W/ro Heran Gerba	1
661	W/ro Heran Gerba	W/ro Heran Gerba	1
662	Dr Keyiredin Redi Aman	Dr Keyiredin Redi Aman	1
663	Dr Keyiredin Redi Aman	Dr Keyiredin Redi Aman	1
664	Dr Keyiredin Redi Aman	Dr Keyiredin Redi Aman	1
665	Dr Tsigereda Kifle Welde	Dr Tsigereda Kifle Welde	1
670	Ato Abreham Gebremedin G/Silase	Ato Abreham Gebremedin G/Silase	1
673	Dr Mizan Kiros	Dr Mizan Kiros	1
674	Dr Mizan Kiros	Dr Mizan Kiros	1
675	Dr Mizan Kiros	Dr Mizan Kiros	1
676	Dr Mizan Kiros	Dr Mizan Kiros	1
677	Ato Alemu Igna	Ato Alemu Igna	1
678	Dr Abebe Getu	Dr Abebe Getu	1
680	Dr Alemseged Admasu	Dr Alemseged Admasu	1
681	W/ro Yamrot Andualem	W/ro Yamrot Andualem	1
682	W/ro Yamrot Andualem	W/ro Yamrot Andualem	1
683	W/ro Tsigereda Kiflelde	W/ro Tsigereda Kiflelde	1
687	Dr Eba Abate Waktola	Dr Eba Abate Waktola	1
688	Dr Eba Abate Waktola	Dr Eba Abate Waktola	1
689	Dr Beyene Moges Ageze	Dr Beyene Moges Ageze	1
690	Dr Loko Abreham	Dr Loko Abreham	1
691	Dr Loko Abreham	Dr Loko Abreham	1
693	Ato Mehari Tekeste Tesfasgi	Ato Mehari Tekeste Tesfasgi	1
694	Ato Mehari Tekeste Tesfasgi	Ato Mehari Tekeste Tesfasgi	1
695	Ato Tesfalem Adiror Akilo	Ato Tesfalem Adiror Akilo	1
696	Ato Yoyitom Gigar Abera	Ato Yoyitom Gigar Abera	1
698	Ato Yakob Seman	Ato Yakob Seman	1
699	Dr Wendemagegn Gezakegn	Dr Wendemagegn Gezakegn	1
701	Dr Birhane Redai	Dr Birhane Redai	1
702	Dr Birhane Redai	Dr Birhane Redai	1
703	Ato Edao Fajo Hamda	Ato Edao Fajo Hamda	1
704	Ato Edao Fajo Hamda	Ato Edao Fajo Hamda	1
705	Ato Dagnew Hagezo	Ato Dagnew Hagezo	1
707	Dr Mizan Kiros	Dr Mizan Kiros	1
708	Dr Mizan Kiros	Dr Mizan Kiros	1
709	Dr Mizan Kiros	Dr Mizan Kiros	1
710	Dr Mizan Kiros	Dr Mizan Kiros	1

	left_side	right_side	similairity
711	Ato Gemechu Weyuma lulesa	Ato Gemechu Weyuma lulesa	1
712	Ato Dereje Wube Mekasha	Ato Dereje Wube Mekasha	1
715	Ato Yersitu Yiredaw	Ato Yersitu Yiredaw	1
716	Ato Getachew Balcha Kelo	Ato Getachew Balcha Kelo	1
717	Ato Getachew Balcha Kelo	Ato Getachew Balcha Kelo	1
718	Ato Anbesaw Ineyew	Ato Anbesaw Ineyew	1
719	Ato Fikadu Mekuria	Ato Fikadu Mekuria	1
720	Ato Fikadu Mekuria	Ato Fikadu Mekuria	1
721	Ato Fikadu Mekuria	Ato Fikadu Mekuria	1
722	Ato Desta Bezabeh G/Hiywet	Ato Desta Bezabeh G/Hiywet	1
723	Ato W/Gebriel Mezgebu	Ato W/Gebriel Mezgebu	1
724	Ato W/Gebriel Mezgebu	Ato W/Gebriel Mezgebu	1
725	Ato W/Gebriel Mezgebu	Ato W/Gebriel Mezgebu	1
726	Ato Mekonen Yidersal	Ato Mekonen Yidersal	1
727	Ato Mekonen Yidersal	Ato Mekonen Yidersal	1
728	Ato Mekonen Yidersal	Ato Mekonen Yidersal	1
729	W/ro Fantanesh Gezhegn	W/ro Fantanesh Gezhegn	1
730	Ato Bezuneh Kaba	Ato Bezuneh Kaba	1
731	Ato Yonas Desta Tsegaye	Ato Yonas Desta Tsegaye	1
732	Ato Yonas Desta Tsegaye	Ato Yonas Desta Tsegaye	1
733	Ato Yonas Desta Tsegaye	Ato Yonas Desta Tsegaye	1
734	Ato Kasim Fate	Ato Kasim Fate	1
735	Ato Yekunoamlak Mezgebu	Ato Yekunoamlak Mezgebu	1
737	Ato Manyazewal Endesa	Ato Manyazewal Endesa	1
739	W/ro Aster Dawit	W/ro Aster Dawit	1
741	Ato Debele Kabeta	Ato Debele Kabeta	1
742	Ato Debele Kabeta	Ato Debele Kabeta	1
743	W/ro Misrak Mamo Tefera	W/ro Misrak Mamo Tefera	1
745	Ato Azezew Chane	Ato Azezew Chane	1
746	Ato Azezew Chane	Ato Azezew Chane	1
747	Ato Mulugeta Beyene	Ato Mulugeta Beyene	1
749	Ato Geremew Garje Gediba	Ato Geremew Garje Gediba	1
750	Ato Geremew Garje Gediba	Ato Geremew Garje Gediba	1
752	Ato Biratu Yigezu	Ato Biratu Yigezu	1
753	Ato Biratu Yigezu	Ato Biratu Yigezu	1
754	Ato Biratu Yigezu	Ato Biratu Yigezu	1
757	Ato Amare Legese	Ato Amare Legese	1
758	Ato Amare Legese	Ato Amare Legese	1
760	W/rt Aberash Tariku	W/rt Aberash Tariku	1
761	W/rt Aberash Tariku	W/rt Aberash Tariku	1
763	Ato Asalefew Abera	Ato Asalefew Abera	1

	left_side	right_side	similairity
764	Ato Ahemed Abitew Asfaw	Ato Ahemed Abitew Asfaw	1
766	Dr Yohanes Ayalew	Dr Yohanes Ayalew	1
769	Ato Alaminew Mekonen	Ato Alaminew Mekonen	1
770	Ato Teferi Tiyara Rebu	Ato Teferi Tiyara Rebu	1
771	Ato Teferi Tiyara Rebu	Ato Teferi Tiyara Rebu	1
772	Ato Alebal Dese	Ato Alebal Dese	1
773	Ato Tesfaye shimeles Bekele	Ato Tesfaye shimeles Bekele	1
774	Ato Agilachew Hadis Agilachew	Ato Agilachew Hadis Agilachew	1
775	Ato Agilachew Hadis Agilachew	Ato Agilachew Hadis Agilachew	1
776	Ato Mahawuda Ahmed Gas	Ato Mahawuda Ahmed Gas	1
777	Ato Wedo Ato Wako	Ato Wedo Ato Wako	1
778	Ato Tium Gebre Hailu	Ato Tium Gebre Hailu	1
779	Ato Tium Gebre Hailu	Ato Tium Gebre Hailu	1
780	Ato Rahil Hailu kasaye	Ato Rahil Hailu kasaye	1
781	Ato Rahil Hailu kasaye	Ato Rahil Hailu kasaye	1
782	Ato Sinishaw Alamirew Tirfe	Ato Sinishaw Alamirew Tirfe	1
785	Ato Ayelign Mulualem Tafe	Ato Ayelign Mulualem Tafe	1
786	Ato Ayelign Mulualem Tafe	Ato Ayelign Mulualem Tafe	1
788	Ato Tebabal Wudeneh Gelaye	Ato Tebabal Wudeneh Gelaye	1
789	Ato Tebabal Wudeneh Gelaye	Ato Tebabal Wudeneh Gelaye	1
792	Dr Iyasu Abreha Ale	Dr Iyasu Abreha Ale	1
796	Ato Salemon Tesfaye Tefera	Ato Salemon Tesfaye Tefera	1
797	Ato Mehamed Shemsu Suliman	Ato Mehamed Shemsu Suliman	1
798	Ato Mehamed Shemsu Suliman	Ato Mehamed Shemsu Suliman	1
799	Ato Gedife Bula Wakjira	Ato Gedife Bula Wakjira	1
800	Ato Niguse Beyene Belew	Ato Niguse Beyene Belew	1
802	W/ro Abebech Negash Kahisay	W/ro Abebech Negash Kahisay	1
804	Ato Asmelash W/silase Zegeye	Ato Asmelash W/silase Zegeye	1
805	Ato Getachew Bedane Abalo	Ato Getachew Bedane Abalo	1
806	Ato Bekele Mengistu Tesema	Ato Bekele Mengistu Tesema	1
807	Ato Bekele Mengistu Tesema	Ato Bekele Mengistu Tesema	1
808	Ato Asmelash Bezabeh Hagos	Ato Asmelash Bezabeh Hagos	1
811	Ato Tazer G/Egziaber Berha	Ato Tazer G/Egziaber Berha	1
814	W/ro Almaz Tilahun Tirfe	W/ro Almaz Tilahun Tirfe	1
816	Ato Hadush G/Egziaber W/silase	Ato Hadush G/Egziaber W/silase	1
818	Ato Teshome Alemayew Abebe	Ato Teshome Alemayew Abebe	1
819	Ato Teshome Alemayew Abebe	Ato Teshome Alemayew Abebe	1
820	Ato Getachew Wake Bulcha	Ato Getachew Wake Bulcha	1
821	Ato Getachew Wake Bulcha	Ato Getachew Wake Bulcha	1
822	Ato H/Iyesus Bekele Abse	Ato H/Iyesus Bekele Abse	1
823	Ato Gemechu Dibisa Godana	Ato Gemechu Dibisa Godana	1

	left_side	right_side	similairity
825	W/ro Semeret Damte Chanyalew	W/ro Semeret Damte Chanyalew	1
826	W/ro Semeret Damte Chanyalew	W/ro Semeret Damte Chanyalew	1
827	W/ro Bayush Tesfaye Mekcha	W/ro Bayush Tesfaye Mekcha	1
828	Ato Hunde Melka Yadete	Ato Hunde Melka Yadete	1
829	Ato Hunde Melka Yadete	Ato Hunde Melka Yadete	1
830	Ato Birhanu Abera Ashenafi	Ato Birhanu Abera Ashenafi	1
831	Ato Birhanu Abera Ashenafi	Ato Birhanu Abera Ashenafi	1
832	Ato Teferi Fikre Gosaye	Ato Teferi Fikre Gosaye	1
833	Ato Teferi Fikre Gosaye	Ato Teferi Fikre Gosaye	1
834	Ato Yidnekachew Werku Kasa	Ato Yidnekachew Werku Kasa	1
836	Dr Kuang Phuphla Dung	Dr Kuang Phuphla Dung	1
837	Ato Kaidan Gezakegn Baylamak	Ato Kaidan Gezakegn Baylamak	1
838	Ato Mulugeta Tadese Asegedom	Ato Mulugeta Tadese Asegedom	1
840	Colonel Tsegay T/Medih Kidane	Colonel Tsegay T/Medih Kidane	1
841	W/ro Senia Sani	W/ro Senia Sani	1
842	W/ro Senia Sani	W/ro Senia Sani	1
843	Ato Alemayew Asfaw Adeto	Ato Alemayew Asfaw Adeto	1
844	W/ro Serawir Sileshi	W/ro Serawir Sileshi	1
845	Ato Abebe zeliul Gonete	Ato Abebe zeliul Gonete	1
846	Ato Meresa G/yohanis Asfawesen	Ato Meresa G/yohanis Asfawesen	1
848	Ato Ali Suleyman Mehamed	Ato Ali Suleyman Mehamed	1
849	Ato Ali Suleyman Mehamed	Ato Ali Suleyman Mehamed	1
850	Ato Mehamed Ahimed Yeshaw	Ato Mehamed Ahimed Yeshaw	1
853	Ato Indale Haile	Ato Indale Haile	1
854	Ato Hadishom Tium Araya	Ato Hadishom Tium Araya	1
856	Ato Abel Adamu Gebeyew	Ato Abel Adamu Gebeyew	1
857	Ato Abel Adamu Gebeyew	Ato Abel Adamu Gebeyew	1
858	Ato Tesfalem Adrar Angolo	Ato Tesfalem Adrar Angolo	1
859	Ato Tesfalem Adrar Angolo	Ato Tesfalem Adrar Angolo	1
860	Ato Bekalu Zeleke Awunetu	Ato Bekalu Zeleke Awunetu	1
861	Ato Aselifew Abera Gebre	Ato Aselifew Abera Gebre	1
862	Ato Aselifew Abera Gebre	Ato Aselifew Abera Gebre	1
863	Ato Aman Legese Reda	Ato Aman Legese Reda	1
864	Ato Aman Legese Reda	Ato Aman Legese Reda	1
865	Ato Biratu Yigezu Yigezu	Ato Biratu Yigezu Yigezu	1
870	W/ro Aberash Tariku Abay	W/ro Aberash Tariku Abay	1
871	W/ro Aberash Tariku Abay	W/ro Aberash Tariku Abay	1
872	Ato Fikadu Seboka Gemeda	Ato Fikadu Seboka Gemeda	1
874	Ato Kasim Fete Dano	Ato Kasim Fete Dano	1
875	Ato Kasim Fete Dano	Ato Kasim Fete Dano	1
876	Ato Yonas Desta Tsegaye	Ato Yonas Desta Tsegaye	1

	left_side	right_side	similairity
877	Ato Yonas Desta Tsegaye	Ato Yonas Desta Tsegaye	1
878	Ato Yonas Desta Tsegaye	Ato Yonas Desta Tsegaye	1
879	Ato Buzena Albidir Hajizira	Ato Buzena Albidir Hajizira	1
880	W/ro Bizunesh Meseret Tegegn	W/ro Bizunesh Meseret Tegegn	1
881	W/ro Bizunesh Meseret Tegegn	W/ro Bizunesh Meseret Tegegn	1
882	Ato Mulugeta Wuletaw Wedaje	Ato Mulugeta Wuletaw Wedaje	1
883	Ato Mulugeta Wuletaw Wedaje	Ato Mulugeta Wuletaw Wedaje	1
884	Ato Mulugeta Wuletaw Wedaje	Ato Mulugeta Wuletaw Wedaje	1
885	Ato Mehamed Abdi Ahemed	Ato Mehamed Abdi Ahemed	1
886	Ato Getachew H/Mariam Abay	Ato Getachew H/Mariam Abay	1
887	Ato Nigus Lema Gebere	Ato Nigus Lema Gebere	1
889	Dr Mebratu G/Mariam Kalo	Dr Mebratu G/Mariam Kalo	1
890	Dr Mebratu G/Mariam Kalo	Dr Mebratu G/Mariam Kalo	1
892	Ato Werdi Hashim	Ato Werdi Hashim	1
896	Ato Amare Admasu Zewudu	Ato Amare Admasu Zewudu	1
898	Ato Mulugeta G/Tsadik	Ato Mulugeta G/Tsadik	1
900	Ato Teshome Lema Wedaj	Ato Teshome Lema Wedaj	1
902	W/ro Tsiyon Teklu Maru	W/ro Tsiyon Teklu Maru	1
903	Prof. Takele Tadese Adafre	Prof. Takele Tadese Adafre	1
904	Ato Gedewos Timotios Hesenbo	Ato Gedewos Timotios Hesenbo	1
905	Dr Ergoba Tesfaye W/Meskel	Dr Ergoba Tesfaye W/Meskel	1
906	Merehawi Abreha G/ Iyesus	Merehawi Abreha G/ Iyesus	1
907	Dr Zenebe Teka Mengesha	Dr Zenebe Teka Mengesha	1
908	Ato Mesfin Asefa Tesfaye	Ato Mesfin Asefa Tesfaye	1
909	Ato Hamud Kiniso Dido	Ato Hamud Kiniso Dido	1
910	W/ro Hirut Keresa Kitila	W/ro Hirut Keresa Kitila	1
911	W/ro Tsehay Asmelash Dejene	W/ro Tsehay Asmelash Dejene	1
912	Ato Ibrahim Usman Farah	Ato Ibrahim Usman Farah	1
913	W/ro Fozia Amin Aray	W/ro Fozia Amin Aray	1
915	Ato Getahun Gizaw G/Kidan	Ato Getahun Gizaw G/Kidan	1
916	Ato Yebegaeshet Nahusenay Fentahun	Ato Yebegaeshet Nahusenay Fentahun	1
926	Ato Yebegaeshet Nahusenay Fantahune	Ato Yebegaeshet Nahusenay Fantahune	1
936	W/rt Menna Yebegaeshet Nahusnay	W/rt Menna Yebegaeshet Nahusnay	1
937	Ato Siraj Fegesa	Ato Siraj Fegesa	1
939	Ambas Teshome Toga	Ambas Teshome Toga	1
940	W/ro Eba Mehamed	W/ro Eba Mehamed	1
941	Dr Gemeda Dale	Dr Gemeda Dale	1
943	Ato Melaku Alebel	Ato Melaku Alebel	1
945	W/ro Fozia Amin	W/ro Fozia Amin	1
947	Dr Abreham Tekeste	Dr Abreham Tekeste	1
949	Ato Shiferaw Shigute Weleba	Ato Shiferaw Shigute Weleba	1

	left_side	right_side	similairity
950	Dr Mebratu G/Mariam	Dr Mebratu G/Mariam	1
954	Ato Mulugeta Wuletaw Wedaje	Ato Mulugeta Wuletaw Wedaje	1
955	Ato Mulugeta Wuletaw Wedaje	Ato Mulugeta Wuletaw Wedaje	1
956	Ato Mulugeta Wuletaw Wedaje	Ato Mulugeta Wuletaw Wedaje	1
957	Ato Teka G/Kidan	Ato Teka G/Kidan	1
958	Ato Araya Girma	Ato Araya Girma	1
959	Ato Salomon Hailu Yohanes	Ato Salomon Hailu Yohanes	1
960	Ambas Misganaw Admasu Jebene	Ambas Misganaw Admasu Jebene	1
961	Sahile Silase Teka	Sahile Silase Teka	1
962	W/ro Firehiwet Ayalew	W/ro Firehiwet Ayalew	1
963	W/ro Ferihiya Mehamed	W/ro Ferihiya Mehamed	1
965	Ato Tesfaye Tulu	Ato Tesfaye Tulu	1
966	W/ro Netsanet Abera Lema	W/ro Netsanet Abera Lema	1
967	Ato Ismael Alisro	Ato Ismael Alisro	1
968	Ato Sultan Mehamed Aliya	Ato Sultan Mehamed Aliya	1
969	Ato Wendu Legese Gizachew	Ato Wendu Legese Gizachew	1
971	Ato Atikilti Abreha	Ato Atikilti Abreha	1
972	Dr Shalo Daba Hamuse	Dr Shalo Daba Hamuse	1
973	Ato Nigusu Lema	Ato Nigusu Lema	1
974	Ato Werdi Hashim	Ato Werdi Hashim	1
975	Ato Werdi Hashim	Ato Werdi Hashim	1
976	Ato Werdi Hashim	Ato Werdi Hashim	1
978	Ato Wendosen Mengistu	Ato Wendosen Mengistu	1
979	Ato Wendosen Mengistu	Ato Wendosen Mengistu	1
980	Dr Kebede Kanchula	Dr Kebede Kanchula	1
981	Dr Kebede Kanchula	Dr Kebede Kanchula	1
982	Ato Sileshi Getahun	Ato Sileshi Getahun	1
984	Ato Zewudu Zaf Mero	Ato Zewudu Zaf Mero	1
985	Ato Isayas W/giorgis	Ato Isayas W/giorgis	1
986	Ato Tamiru Ginbeto	Ato Tamiru Ginbeto	1
990	Ato Abera Mulatu	Ato Abera Mulatu	1
992	Her Excellency W/ro Demitu	Her Excellency W/ro Demitu	1
993	His Excellency Shimeli Abdisa	His Excellency Shimeli Abdisa	1
994	His Excellency Dr Arikebe Ekubay	His Excellency Dr Arikebe Ekubay	1
996	His Excellency Ato Tekleweld Atinaf	His Excellency Ato Tekleweld Atinaf	1
997	His Excellency Dalike	His Excellency Dalike	1
998	His Excellency Temesgen Tiruneh	His Excellency Temesgen Tiruneh	1
1000	His Excellency Ambachew Mekonen	His Excellency Ambachew Mekonen	1
1002	His Excellency Ato Melese Alemu	His Excellency Ato Melese Alemu	1
1004	His Excellency Ato Tefera Derebew	His Excellency Ato Tefera Derebew	1
1005	His Excellency Ato Tefera Derebew	His Excellency Ato Tefera Derebew	1

	left_side	right_side	similairity
1006	His Excellecy Ato Fikadu Tesema	His Excellecy Ato Fikadu Tesema	1
1007	His Excellency Binalf Andualem	His Excellency Binalf Andualem	1
1008	His Excellency Zadig Abreha	His Excellency Zadig Abreha	1
1009	His Excellency Temesgen Burka	His Excellency Temesgen Burka	1
1011	His Excellency Sadat Nasha	His Excellency Sadat Nasha	1
1012	His Excellency Getachew Ambaye	His Excellency Getachew Ambaye	1
1013	His Excellency Motuma Mekasa	His Excellency Motuma Mekasa	1
1015	His Excellency Ato Tesfahun Gobezay	His Excellency Ato Tesfahun Gobezay	1
1017	His Excellency Ato Hailay Birhane Tesema	His Excellency Ato Hailay Birhane Tesema	1
1018	His Excellency Ato Werku Guanegul	His Excellency Ato Werku Guanegul	1
1020	His Excellency Ato Fiseha Yitagesu	His Excellency Ato Fiseha Yitagesu	1
1021	His Excellency Ato Fiseha Yitagesu	His Excellency Ato Fiseha Yitagesu	1
1024	His Excellency Ato Isayas Kasa	His Excellency Ato Isayas Kasa	1
1026	His Excellency Ato Mamo Ismelealemiretu	His Excellency Ato Mamo Ismelealemiretu	1
1027	His Excellency Tesfaye Yigezu	His Excellency Tesfaye Yigezu	1
1028	His Excellency Ato Chane Shimeka	His Excellency Ato Chane Shimeka	1
1029	His Excellency Ato Chane Lema	His Excellency Ato Chane Lema	1
1030	his Excellency Ato G/Egziaber Araya	his Excellency Ato G/Egziaber Araya	1
1031	Her Excellency W/ro Muferiat Kamil	Her Excellency W/ro Muferiat Kamil	1
1033	His Excellency Ato Kefyalew Tefera	His Excellency Ato Kefyalew Tefera	1
1034	His Excellency Ato Zeinu Jemal	His Excellency Ato Zeinu Jemal	1
1036	His Excellency Dr Siyum Mesfin	His Excellency Dr Siyum Mesfin	1
1037	Her Excellency W/ro Almaz Mekonen	Her Excellency W/ro Almaz Mekonen	1
1038	Dr G/Egziaber G/Yohanis Adera	Dr G/Egziaber G/Yohanis Adera	1
1039	His Excellency Eng Ayisha Mehamed Musa	His Excellency Eng Ayisha Mehamed Musa	1
1040	Her Excellency Amb. Lelalem G/Yuhanis	Her Excellency Amb. Lelalem G/Yuhanis	1
1041	His Excellency Ato Fiseha Woledesanbet	His Excellency Ato Fiseha Woledesanbet	1
1042	His Excellency Dr Werkineh Gebeyew	His Excellency Dr Werkineh Gebeyew	1
1044	Her Excelency W/ro Hirut Zemene	Her Excelency W/ro Hirut Zemene	1
1046	Her Excellency Amb. Birtukan Ayano	Her Excellency Amb. Birtukan Ayano	1
1048	His Excellency Dr Aklilu H/Michael	His Excellency Dr Aklilu H/Michael	1
1050	His Excelency Dr Markos Teklu	His Excelency Dr Markos Teklu	1
1051	His Excelency Ato Ahimed Shide	His Excelency Ato Ahimed Shide	1
1052	Dr Eng Sileshi Bekele Awulew	Dr Eng Sileshi Bekele Awulew	1
1054	His Exellency Ato Admasu Nebebe Gedamu	His Exellency Ato Admasu Nebebe Gedamu	1
1056	His Excellency Ato Eyob Tekalegn	His Excellency Ato Eyob Tekalegn	1
1057	His Excellency Dr Teshome Tafese	His Excellency Dr Teshome Tafese	1
1059	Dr Bekele Bulado Bukana	Dr Bekele Bulado Bukana	1
1061	Ato Endalkach Mihiretu Gashano	Ato Endalkach Mihiretu Gashano	1
1062	His Exellency Ato Birhanu Tsegaye	His Exellency Ato Birhanu Tsegaye	1
1064	His Exellency Ato Geleta Siyum	His Exellency Ato Geleta Siyum	1

	left_side	right_side	similairity
1065	His Excellency Admasu Ango	His Excellency Admasu Ango	1
1067	His Excellency Dr Gedion Timothios	His Excellency Dr Gedion Timothios	1
1068	His Excellency Umer Husen	His Excellency Umer Husen	1
1069	His Excellency Dr G/Egziaber G/yohanis	His Excellency Dr G/Egziaber G/yohanis	1
1070	His Excellency Sani Redi Ahimed	His Excellency Sani Redi Ahimed	1
1071	Her Excelency w/ro Ayinalem Niguse	Her Excelency w/ro Ayinalem Niguse	1
1072	His Excellency Dr Kaba Urgesa Dinsa	His Excellency Dr Kaba Urgesa Dinsa	1
1074	Dr Iyasu Abreha	Dr Iyasu Abreha	1
1078	Her Excellency W/ro Fetilework G/Egiziaber	Her Excellency W/ro Fetilework G/Egiziaber	1
1079	Dr Firehiwot Weldehana	Dr Firehiwot Weldehana	1
1080	His Excellency Ato Yohanis Dinkayew	His Excellency Ato Yohanis Dinkayew	1
1081	His Excellency Ato Yohanis Dinkayew	His Excellency Ato Yohanis Dinkayew	1
1082	His Excellency Ato Ishete Asfaw W/Hawaria	His Excellency Ato Ishete Asfaw W/Hawaria	1
1083	His Excellency Ambs Misganu Arega	His Excellency Ambs Misganu Arega	1
1084	His Excellency Dr Eng. Getahun Mekuria	His Excellency Dr Eng. Getahun Mekuria	1
1087	His Excellency Isayas Tola	His Excellency Isayas Tola	1
1088	His Excellency Ato Jemal Beker	His Excellency Ato Jemal Beker	1
1090	His Excellency Dr Shumete Gizaw W/Amanuel	His Excellency Dr Shumete Gizaw W/Amanuel	1
1092	Her Excellency W/ro Dagemawit Moges	Her Excellency W/ro Dagemawit Moges	1
1093	Her Excellency W/ro Hiywot Mosisa Deresa	Her Excellency W/ro Hiywot Mosisa Deresa	1
1094	Her Excellency W/ro Mulu G/egziaber G/Hiywot	Her Excellency W/ro Mulu G/egziaber G/Hiywot	1
1095	His Excellency Hasen Abidul Kadir	His Excellency Hasen Abidul Kadir	1
1096	His Excellency Ato Awel Wegris	His Excellency Ato Awel Wegris	1
1097	His Exellency Ato Jantiraw Abay Yigzaw	His Exellency Ato Jantiraw Abay Yigzaw	1
1098	His Exellency Tazer G/Igziaber	His Exellency Tazer G/Igziaber	1
1099	His Excellency Kalid Abduraheman	His Excellency Kalid Abduraheman	1
1100	His Excellency Kasahun Gofe	His Excellency Kasahun Gofe	1
1102	His Excellency Dr Eng. Sileshi Bekele	His Excellency Dr Eng. Sileshi Bekele	1
1104	His Excellency Dr Frehiwot Weldehana	His Excellency Dr Frehiwot Weldehana	1
1106	Ato Abay Tsehaye abay	Ato Abay Tsehaye abay	1
1108	His Excellency Dr Negash Wakishaw	His Excellency Dr Negash Wakishaw	1
1111	His Exellency Dr Abreha Adugna	His Exellency Dr Abreha Adugna	1
1112	His Excellency Dr Samuel Hurkato	His Excellency Dr Samuel Hurkato	1
1113	His Excellency Dr asefa Kumsa Afeta	His Excellency Dr asefa Kumsa Afeta	1
1114	His Excellency Dr Kongtut Lam	His Excellency Dr Kongtut Lam	1
1116	His Excellency Dr Tilaye Gete Ambaye	His Excellency Dr Tilaye Gete Ambaye	1
1118	His Excellency Ato Mohamed Ahimed Hasen	His Excellency Ato Mohamed Ahimed Hasen	1
1119	His ExcellencyDr Yusuf	His ExcellencyDr Yusuf	1
1120	His Excellency Hirut Weldemariam Teketel	His Excellency Hirut Weldemariam Teketel	1
1122	His Excellency Dr Samuel Kifle Kasu	His Excellency Dr Samuel Kifle Kasu	1
1124	His Excellency Prof. Afewerk Kasu	His Excellency Prof. Afewerk Kasu	1

	left_side	right_side	similairity
1125	His Excellency Dr Abdiwas Abdulahi	His Excellency Dr Abdiwas Abdulahi	1
1127	His Excellency Dr Amir Aman	His Excellency Dr Amir Aman	1
1129	His Excellency W/ro Sahirla Abdulahi	His Excellency W/ro Sahirla Abdulahi	1
1131	Dr Liya Tadese	Dr Liya Tadese	1
1132	Dr Liya Tadese	Dr Liya Tadese	1
1133	Her Excellency W/ro Yalem Tsegaye	Her Excellency W/ro Yalem Tsegaye	1
1134	Her Excellency W/ro Yalem Tsegaye	Her Excellency W/ro Yalem Tsegaye	1
1135	Her Excellency W/ro Alemitu Umedu	Her Excellency W/ro Alemitu Umedu	1
1136	Her Excellency W/ro Simegn Wube Haile	Her Excellency W/ro Simegn Wube Haile	1
1138	Her Excellency W/ro Hiyweot Hailu	Her Excellency W/ro Hiyweot Hailu	1
1139	His Excellency Dr Erboge Tesfaye	His Excellency Dr Erboge Tesfaye	1
1141	His Excellency Getahun Abdisa	His Excellency Getahun Abdisa	1
1142	Ayelech Eshete W/Semay	Ayelech Eshete W/Semay	1
1143	Her Excellency Hirut Kasaw	Her Excellency Hirut Kasaw	1
1144	Her Excellency W/ro Buzena Alkedir	Her Excellency W/ro Buzena Alkedir	1
1147	Her Excellency W/ro Bizunesh Meseret	Her Excellency W/ro Bizunesh Meseret	1
1149	His Excellency Ato Habtamu Sisay	His Excellency Ato Habtamu Sisay	1
1151	Her Excellency W/ro Adanech abw	Her Excellency W/ro Adanech abw	1
1152	His Excellency Ato Zemede Tefera W/giorgis	His Excellency Ato Zemede Tefera W/giorgis	1
1153	Alebel Dese Moges	Alebel Dese Moges	1
1155	His Excellency Ato Mehamed Abdu Ahimed	His Excellency Ato Mehamed Abdu Ahimed	1
1157	Her Excellency W/ro Mihiret Minaseb Hailu	Her Excellency W/ro Mihiret Minaseb Hailu	1
1159	Her Excellency Dr Fitsum Asefa	Her Excellency Dr Fitsum Asefa	1
1160	His Excellency Getachew Adem	His Excellency Getachew Adem	1
1162	Her Excellency W/ro Meseret Meskele	Her Excellency W/ro Meseret Meskele	1
1163	Ato Fitsum Arega	Ato Fitsum Arega	1
1165	Ato Temesgen Tilahun	Ato Temesgen Tilahun	1
1170	Ato Anteneh Alemu	Ato Anteneh Alemu	1
1171	Ato Anteneh Alemu	Ato Anteneh Alemu	1
1172	Ato Anteneh Alemu	Ato Anteneh Alemu	1
1173	Ato Teka G/yesus	Ato Teka G/yesus	1
1174	W/rt Lelise Lemi	W/rt Lelise Lemi	1
1175	Ato Yilma Belachew	Ato Yilma Belachew	1
1176	Ato Yilma Belachew	Ato Yilma Belachew	1
1177	Ato Shiferaw Selomon	Ato Shiferaw Selomon	1
1178	Ato Amare Asegedom	Ato Amare Asegedom	1
1179	Ato Bezabeh Gebreyes	Ato Bezabeh Gebreyes	1
1180	Ato Birhanu Feyisa	Ato Birhanu Feyisa	1
1181	Ato Birhanu Feyisa	Ato Birhanu Feyisa	1
1183	Dr Fikre Desalegn	Dr Fikre Desalegn	1
1184	Dr Fikre Desalegn	Dr Fikre Desalegn	1

	left_side	right_side	similairity
1185	Amba. Dr Adisalem Balema	Amba. Dr Adisalem Balema	1
1186	His Excellency Ato Tsegaye Mamo Gastet	His Excellency Ato Tsegaye Mamo Gastet	1
1189	Ato Bezabeh G/Silase Tesfaye	Ato Bezabeh G/Silase Tesfaye	1
1190	Ato Bezabeh G/Silase Tesfaye	Ato Bezabeh G/Silase Tesfaye	1
1192	His Excellency Ato Demise Shito Gondere	His Excellency Ato Demise Shito Gondere	1
1195	Ato Haftam G/Egziaber Hagos	Ato Haftam G/Egziaber Hagos	1
1196	His Excellency Ato Tewelde Berhe Beyene	His Excellency Ato Tewelde Berhe Beyene	1
1198	Ato Mekonen Yai	Ato Mekonen Yai	1
1199	Ato G/Meskel Chala	Ato G/Meskel Chala	1
1200	Ato G/Meskel Chala	Ato G/Meskel Chala	1
1201	Ato Mengistu Yitbarek	Ato Mengistu Yitbarek	1
1202	Ato Mengistu Yitbarek	Ato Mengistu Yitbarek	1
1203	Dr Takele Chane	Dr Takele Chane	1
1205	Ato Hailekiros Debesay Melkamu	Ato Hailekiros Debesay Melkamu	1
1206	Ato Hailekiros Debesay Melkamu	Ato Hailekiros Debesay Melkamu	1
1209	Ato Zekarias Erkola Yimam	Ato Zekarias Erkola Yimam	1
1212	Ato Mehamed Husen Seyid	Ato Mehamed Husen Seyid	1
1214	Ato Daba Oria Gelan	Ato Daba Oria Gelan	1
1215	Ato Mandefro Ishete W/Michael	Ato Mandefro Ishete W/Michael	1
1216	Ato Tilahun Bekel	Ato Tilahun Bekel	1
1219	Prof.Fikadu Beyene Aleka	Prof.Fikadu Beyene Aleka	1
1220	W/ro Firenesh Mekuria Gobena	W/ro Firenesh Mekuria Gobena	1
1222	Ato Kebede Yimam Daud	Ato Kebede Yimam Daud	1
1223	Dr Melese Mariye	Dr Melese Mariye	1
1224	Dr Melese Mariye	Dr Melese Mariye	1
1225	Dr Feleke Weldeyes	Dr Feleke Weldeyes	1
1228	Dr Abiyot Birhanu	Dr Abiyot Birhanu	1
1231	Dr Agena Anjelo Tanga	Dr Agena Anjelo Tanga	1
1234	Ato Kumera Wakjira Gemeda	Ato Kumera Wakjira Gemeda	1
1236	Ato Selemon Mekonen Bula	Ato Selemon Mekonen Bula	1
1238	Dr Efrem Telke Limango	Dr Efrem Telke Limango	1
1239	Dr Yinager Dese Belay	Dr Yinager Dese Belay	1
1240	Dr Yinager Dese Belay	Dr Yinager Dese Belay	1
1241	Ato Yemane Yosef Tesfaye	Ato Yemane Yosef Tesfaye	1
1243	Ato Tiruneh Mitafa Guta	Ato Tiruneh Mitafa Guta	1
1246	W/rt Lensa Mekonen	W/rt Lensa Mekonen	1
1247	Ato Seritse Firesibihat	Ato Seritse Firesibihat	1
1248	Dr Hagos Abreha	Dr Hagos Abreha	1
1249	Dr Hagos Abreha	Dr Hagos Abreha	1
1250	Her Excellency W/ro Werkinesh Biru	Her Excellency W/ro Werkinesh Biru	1
1252	Ato Indashaw Tasew W/Giorgis	Ato Indashaw Tasew W/Giorgis	1

	left_side	right_side	similairity
1254	Ato Melaku Fenta Balcha	Ato Melaku Fenta Balcha	1
1255	Ato Melaku Fenta Balcha	Ato Melaku Fenta Balcha	1
1256	Ato Yihedego Siyum W/mariam	Ato Yihedego Siyum W/mariam	1
1258	Ato Tekola Ayifokiru Yemiru	Ato Tekola Ayifokiru Yemiru	1
1259	Ato Kenea Yadeta Irena	Ato Kenea Yadeta Irena	1
1260	Ato Kenea Yadeta Irena	Ato Kenea Yadeta Irena	1
1262	Ato Mulugeta Werku	Ato Mulugeta Werku	1
1265	His Excellency Ato Mitiku Kasa	His Excellency Ato Mitiku Kasa	1
1267	Ato Damena Darota	Ato Damena Darota	1
1270	Tadelech Dalecha	Tadelech Dalecha	1
1273	Ato Desalegn G/Yohanis	Ato Desalegn G/Yohanis	1
1274	W/ro Efrah Ali Musa	W/ro Efrah Ali Musa	1
1275	Ato Tefera Fikre	Ato Tefera Fikre	1
1277	Dr Abreham Belay	Dr Abreham Belay	1
1278	Dr Abreham Belay	Dr Abreham Belay	1
1279	Dr Abreham Belay	Dr Abreham Belay	1
1280	Dr Abreham Belay	Dr Abreham Belay	1
1281	Dr Abreham Belay	Dr Abreham Belay	1
1282	Ato Werku Gachena Negera	Ato Werku Gachena Negera	1
1284	Ato Kidanemariam Gebresadik Hadera	Ato Kidanemariam Gebresadik Hadera	1
1285	Ato Birhane Weldekiros	Ato Birhane Weldekiros	1
1287	Ato Isayas W/Giorgis	Ato Isayas W/Giorgis	1
1288	Ato Isayas W/Giorgis	Ato Isayas W/Giorgis	1
1289	Ato Isayas W/Giorgis	Ato Isayas W/Giorgis	1
1290	Ato Isayas W/Giorgis	Ato Isayas W/Giorgis	1
1291	Ato Tamiru Ginbeto	Ato Tamiru Ginbeto	1
1292	Ato Tamiru Ginbeto	Ato Tamiru Ginbeto	1
1293	Ato Tamiru Ginbeto	Ato Tamiru Ginbeto	1
1295	General Adem Mohamed	General Adem Mohamed	1
1298	Commissioner Demelash /Michael	Commissioner Demelash /Michael	1
1300	Ato Kebede Chane	Ato Kebede Chane	1
1302	Ato Nega Berhe	Ato Nega Berhe	1
1304	Ato Adisu Kebenesa	Ato Adisu Kebenesa	1
1306	Amba. Arega Hailu	Amba. Arega Hailu	1
1307	W/ro Selamawit Dawit	W/ro Selamawit Dawit	1
1309	Ato Getahun Nana Jember	Ato Getahun Nana Jember	1
1311	Ato Mehamed Indris	Ato Mehamed Indris	1
1312	Ato Mehamed Indris	Ato Mehamed Indris	1
1313	W/ro Marta Liwuji Anteneh	W/ro Marta Liwuji Anteneh	1
1314	Ato Jonse Degefa Leta	Ato Jonse Degefa Leta	1
1316	Ato Yeyigezu Daba	Ato Yeyigezu Daba	1

	left_side	right_side	similairity
1318	Ato Tesfaye Birhanu	Ato Tesfaye Birhanu	1
1321	Ato Salomon Ayinimar	Ato Salomon Ayinimar	1
1322	Ato Gashe Yemaneh	Ato Gashe Yemaneh	1
1323	Ato Gashe Yemaneh	Ato Gashe Yemaneh	1
1325	Ato Beyene G/Meskel Mada	Ato Beyene G/Meskel Mada	1
1327	Ato Habtamu H/Michael	Ato Habtamu H/Michael	1
1328	Ato Habtamu H/Michael	Ato Habtamu H/Michael	1
1329	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
1330	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
1331	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
1332	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
1333	Brigadier General Tigabu Fetle	Brigadier General Tigabu Fetle	1
1335	General Tena Qurunde	General Tena Qurunde	1
1336	Ato Abdulaziz Ahmed	Ato Abdulaziz Ahmed	1
1339	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
1340	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
1341	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
1342	Brigadier General Ahimed Hamza	Brigadier General Ahimed Hamza	1
1343	Le/Colonel Shegaw Mulugeta	Le/Colonel Shegaw Mulugeta	1
1345	Birgadier General Hadugu G/Giorgis	Birgadier General Hadugu G/Giorgis	1
1346	Ato Awol Ali	Ato Awol Ali	1
1347	Ato Ermias Yemanebirhan	Ato Ermias Yemanebirhan	1
1350	Ato Indalu Mosisa Waktola	Ato Indalu Mosisa Waktola	1
1351	Ato Jima Dulbo Denbel	Ato Jima Dulbo Denbel	1
1353	Ato Faskaw Mola	Ato Faskaw Mola	1
1355	Ato Mersa Gebereyohanis	Ato Mersa Gebereyohanis	1
1358	Ato Muluken Amare Adinew	Ato Muluken Amare Adinew	1
1359	Ato Muluken Amare Adinew	Ato Muluken Amare Adinew	1
1360	Ato Ashemawi Seyifu	Ato Ashemawi Seyifu	1
1362	Ato Abreham Niguse	Ato Abreham Niguse	1
1365	Ato Hamdi Kiniso	Ato Hamdi Kiniso	1
1366	Ato Jemal Abeso	Ato Jemal Abeso	1
1367	Redat Commander Yaregal Ademe	Redat Commander Yaregal Ademe	1
1368	Commander Wondimu Chama	Commander Wondimu Chama	1
1370	Commander Desta Asmelash	Commander Desta Asmelash	1
1372	Amb. Degefu Bula	Amb. Degefu Bula	1
1373	Ato Mitiku Mada Dilnesaw	Ato Mitiku Mada Dilnesaw	1
1375	Ato Tesfalem Yihedego G/Kidan	Ato Tesfalem Yihedego G/Kidan	1
1377	Ato Mesfin Abebe Bediye	Ato Mesfin Abebe Bediye	1
1378	Ato Zekarias Erkola	Ato Zekarias Erkola	1
1379	Ato Zekarias Erkola	Ato Zekarias Erkola	1

	left_side	right_side	similairity
1381	Ato Mulugeta Ayalew	Ato Mulugeta Ayalew	1
1383	W/rt Serkalem Iniyew	W/rt Serkalem Iniyew	1
1384	W/rt Serkalem Iniyew	W/rt Serkalem Iniyew	1
1385	Ato Zinabu Tadese	Ato Zinabu Tadese	1
1387	Ato Yusef Alemu	Ato Yusef Alemu	1
1388	Ato Belay Wedusha	Ato Belay Wedusha	1
1389	Ato Belay Wedusha	Ato Belay Wedusha	1
1390	Dr Terzu Daya	Dr Terzu Daya	1
1391	Dr Terzu Daya	Dr Terzu Daya	1
1393	Ato Usman Surur Siraj	Ato Usman Surur Siraj	1
1395	Ato Abdi Mumedu	Ato Abdi Mumedu	1
1396	Ato Abdi Mumedu	Ato Abdi Mumedu	1
1397	Dr Mandefro Niguse	Dr Mandefro Niguse	1
1398	Dr Mandefro Niguse	Dr Mandefro Niguse	1
1399	Dr Mandefro Niguse	Dr Mandefro Niguse	1
1400	Dr Diraba Geleti	Dr Diraba Geleti	1
1402	Dr Chilot Yirga	Dr Chilot Yirga	1
1403	Dr Chilot Yirga	Dr Chilot Yirga	1
1405	Ato Kalid Bomba	Ato Kalid Bomba	1
1406	Ato Kalid Bomba	Ato Kalid Bomba	1
1407	Ato Kalid Bomba	Ato Kalid Bomba	1
1408	Dr Dgnachew Beyene	Dr Dgnachew Beyene	1
1409	Dr Adugna Dabala	Dr Adugna Dabala	1
1410	Ato Shafi Umer Aga	Ato Shafi Umer Aga	1
1413	Ato Awugichew Teshome Kifle	Ato Awugichew Teshome Kifle	1
1415	Dr Mekuria Tadese	Dr Mekuria Tadese	1
1417	Dr Mesfin Sahile Forsa	Dr Mesfin Sahile Forsa	1
1419	Dr Isayas Tesema	Dr Isayas Tesema	1
1420	Ato Manyazewal Endashaw Guanegul	Ato Manyazewal Endashaw Guanegul	1
1421	Ato Manyazewal Endashaw Guanegul	Ato Manyazewal Endashaw Guanegul	1
1422	Ato Bereket Simion W/Gerima	Ato Bereket Simion W/Gerima	1
1424	Dr Marta yami	Dr Marta yami	1
1425	Ato Sileshi lema Bekele	Ato Sileshi lema Bekele	1
1426	Ato yared Mesfin Tefera	Ato yared Mesfin Tefera	1
1427	Ato Niguse Godana Midiksa	Ato Niguse Godana Midiksa	1
1428	Ato Melese Mekuria Bekele	Ato Melese Mekuria Bekele	1
1431	Ato Bogale Feleke Temesgen	Ato Bogale Feleke Temesgen	1
1433	Ato Haile Kiros Debesay	Ato Haile Kiros Debesay	1
1434	Ato Muhamed Husen	Ato Muhamed Husen	1
1435	Ato Muhamed Husen	Ato Muhamed Husen	1
1436	Ato Werkineh Desalegn	Ato Werkineh Desalegn	1

	left_side	right_side	similairity
1437	Ato Werkineh Desalegn	Ato Werkineh Desalegn	1
1438	Ato Fikadu Haile	Ato Fikadu Haile	1
1439	Ato Fikadu Haile	Ato Fikadu Haile	1
1440	Ato Fikadu Haile	Ato Fikadu Haile	1
1441	Ato Kahisa G/Medin	Ato Kahisa G/Medin	1
1443	Ato Endalew Mekonin	Ato Endalew Mekonin	1
1445	Ato Bonsa Bayisa	Ato Bonsa Bayisa	1
1446	Ato Bonsa Bayisa	Ato Bonsa Bayisa	1
1447	Ato Bonsa Bayisa	Ato Bonsa Bayisa	1
1448	Ato Ariaya Fiseha Gezahegn	Ato Ariaya Fiseha Gezahegn	1
1450	Ato Getinet Tsegemelak G/Yohanis	Ato Getinet Tsegemelak G/Yohanis	1
1451	Ato Samuele Halala	Ato Samuele Halala	1
1452	Ato Deysa Leta Merga	Ato Deysa Leta Merga	1
1453	W/ro Simret Girma	W/ro Simret Girma	1
1454	W/ro Simret Girma	W/ro Simret Girma	1
1455	W/ro Simret Girma	W/ro Simret Girma	1
1456	Ato Hadushom Tium	Ato Hadushom Tium	1
1457	Ato Hadushom Tium	Ato Hadushom Tium	1
1459	Ato Hailesilase Warese	Ato Hailesilase Warese	1
1460	Ato Hailesilase Warese	Ato Hailesilase Warese	1
1461	Dr Tekeba Eshetu	Dr Tekeba Eshetu	1
1463	Ato Tadese Guta	Ato Tadese Guta	1
1464	Ato Tadese Guta	Ato Tadese Guta	1
1466	Ato Solomon Tadese	Ato Solomon Tadese	1
1467	Ato Solomon Tadese	Ato Solomon Tadese	1
1468	Ato Mesay W/Mariam	Ato Mesay W/Mariam	1
1469	Ato Mesay W/Mariam	Ato Mesay W/Mariam	1
1470	W/ro Belaynesh Kumsa	W/ro Belaynesh Kumsa	1
1472	Ato Bekele Mekuria	Ato Bekele Mekuria	1
1474	Eng. Olero Opio Ujulu	Eng. Olero Opio Ujulu	1
1475	Ato Wendimagegn Negera	Ato Wendimagegn Negera	1
1477	Ato Asfaw Abebe Ershawu	Ato Asfaw Abebe Ershawu	1
1478	Ato Kelifa Husen Nesro	Ato Kelifa Husen Nesro	1
1479	Ato Kelifa Husen Nesro	Ato Kelifa Husen Nesro	1
1481	Ato Hadush Halefom	Ato Hadush Halefom	1
1483	Ato Daniel Olani Mekonen	Ato Daniel Olani Mekonen	1
1485	Dr Abdu Abagibe	Dr Abdu Abagibe	1
1486	Dr Abdu Abagibe	Dr Abdu Abagibe	1
1488	Ato Mulugeta Deribew	Ato Mulugeta Deribew	1
1489	Ato Michael Tekilu	Ato Michael Tekilu	1
1490	Ato Girma Alemar	Ato Girma Alemar	1

	left_side	right_side	similairity
1491	Ato Girma Alemar	Ato Girma Alemar	1
1492	Ato Girma Alemar	Ato Girma Alemar	1
1493	W/ro Melesech Wedajo	W/ro Melesech Wedajo	1
1494	Ato Teshale Belihu	Ato Teshale Belihu	1
1495	Ato Teshale Belihu	Ato Teshale Belihu	1
1496	Ato Gashaw Tesfaye	Ato Gashaw Tesfaye	1
1497	Ato Gashaw Tesfaye	Ato Gashaw Tesfaye	1
1498	Dr Hulu Besha	Dr Hulu Besha	1
1500	Ato Solomon Getachew	Ato Solomon Getachew	1
1501	Ato Solomon Getachew	Ato Solomon Getachew	1
1502	Dr Kasahun Tesfaye Geletu	Dr Kasahun Tesfaye Geletu	1
1503	Dr Kasahun Tesfaye Geletu	Dr Kasahun Tesfaye Geletu	1
1505	Dr Hailu Dadi Melka	Dr Hailu Dadi Melka	1
1507	Ato Tewdros Bekele Gerbi	Ato Tewdros Bekele Gerbi	1
1508	Ato Tewdros Bekele Gerbi	Ato Tewdros Bekele Gerbi	1
1510	Dr Solomon Belay	Dr Solomon Belay	1
1511	Dr Solomon Belay	Dr Solomon Belay	1
1512	Ato Atakilti Gidey Abreha	Ato Atakilti Gidey Abreha	1
1514	Ato Yohanis Bekele Gezakegn	Ato Yohanis Bekele Gezakegn	1
1516	Ato Abdisa Yilma	Ato Abdisa Yilma	1
1517	Ato Abdisa Yilma	Ato Abdisa Yilma	1
1518	Ato Abdisa Yilma	Ato Abdisa Yilma	1
1519	Ato Sandokan Debebe	Ato Sandokan Debebe	1
1520	Ato Sandokan Debebe	Ato Sandokan Debebe	1
1521	Ato Teshome Sahilemariam	Ato Teshome Sahilemariam	1
1523	Ato Muluken Kere	Ato Muluken Kere	1
1524	Ato Abdisa Yadeta	Ato Abdisa Yadeta	1
1525	Ato Abdisa Yadeta	Ato Abdisa Yadeta	1
1527	Ato Dereje W/Yohanis Abdi	Ato Dereje W/Yohanis Abdi	1
1528	W/ro Almaz Beyero Hirbaye	W/ro Almaz Beyero Hirbaye	1
1530	Ato Yohanis Bekele	Ato Yohanis Bekele	1
1531	Ato Yohanis Bekele	Ato Yohanis Bekele	1
1532	Ato Rashid Mehamed	Ato Rashid Mehamed	1
1533	Ato Yisehak Abera Reda	Ato Yisehak Abera Reda	1
1534	Ato Shimalis Tamirat Debebe	Ato Shimalis Tamirat Debebe	1
1535	Colonel Wesen Yeleh Hunegna Wutadeg	Colonel Wesen Yeleh Hunegna Wutadeg	1
1536	Colonel Wesen Yeleh Hunegna Wutadeg	Colonel Wesen Yeleh Hunegna Wutadeg	1
1537	Ato Zewdu Teklay Aregawi	Ato Zewdu Teklay Aregawi	1
1539	Ato Shimalis K/Ab Zerufael	Ato Shimalis K/Ab Zerufael	1
1540	Ato Mekonen Abera Tadese	Ato Mekonen Abera Tadese	1
1541	Ato Mekonen Abera Tadese	Ato Mekonen Abera Tadese	1

	left_side	right_side	similairity
1543	Dr Sintayew W/Michael	Dr Sintayew W/Michael	1
1546	Ato Henok Bogale	Ato Henok Bogale	1
1547	Ato Henok Bogale	Ato Henok Bogale	1
1548	Ato Abiy Getachew	Ato Abiy Getachew	1
1550	Ato Yehualashet Jemere	Ato Yehualashet Jemere	1
1551	Ato Yehualashet Jemere	Ato Yehualashet Jemere	1
1552	Ato Yehualashet Jemere	Ato Yehualashet Jemere	1
1553	Dr Belete Kebede	Dr Belete Kebede	1
1554	Dr Belete Kebede	Dr Belete Kebede	1
1556	Ato Fadel Abreham	Ato Fadel Abreham	1
1557	Ato Habatamu Tegegn	Ato Habatamu Tegegn	1
1558	Ato Mohamed Abdurehaman	Ato Mohamed Abdurehaman	1
1560	Ato Sisay Bekele	Ato Sisay Bekele	1
1562	Ato Alemayew Ayele	Ato Alemayew Ayele	1
1564	Ato Daniel Mengiste	Ato Daniel Mengiste	1
1566	Eng.Tilahun Bireka	Eng.Tilahun Bireka	1
1567	W/ro Firehiwot Tiliku	W/ro Firehiwot Tiliku	1
1568	W/ro Firehiwot Tiliku	W/ro Firehiwot Tiliku	1
1569	Ato Ambachew Abate	Ato Ambachew Abate	1
1570	Ato Ambachew Abate	Ato Ambachew Abate	1
1571	Ato Mustefa Kedir	Ato Mustefa Kedir	1
1572	Ato Abiy Weretaw	Ato Abiy Weretaw	1
1573	Ato Abiy Weretaw	Ato Abiy Weretaw	1
1574	Ato Abdul Ber Shemsu	Ato Abdul Ber Shemsu	1
1575	Ato Reshad Kemal	Ato Reshad Kemal	1
1576	Ato Reshad Kemal	Ato Reshad Kemal	1
1577	Ato Yirgalem Kumelt	Ato Yirgalem Kumelt	1
1578	Ato Yirgalem Kumelt	Ato Yirgalem Kumelt	1
1579	Ato Haileberhan Zena	Ato Haileberhan Zena	1
1581	Ato Fantahun Hagos	Ato Fantahun Hagos	1
1582	Ato Fantahun Hagos	Ato Fantahun Hagos	1
1583	Ato Fantahun Hagos	Ato Fantahun Hagos	1
1584	Ato Fantahun Hagos	Ato Fantahun Hagos	1
1585	Dr Yirgaw Asha	Dr Yirgaw Asha	1
1586	Ato Asmerom Tadese	Ato Asmerom Tadese	1
1587	Ato Asmerom Tadese	Ato Asmerom Tadese	1
1588	Ato Asmerom Tadese	Ato Asmerom Tadese	1
1589	Ato Zenebe Kumo Geda	Ato Zenebe Kumo Geda	1
1590	Ato Zenebe Kumo Geda	Ato Zenebe Kumo Geda	1
1592	Ato Simelash Bezabeh	Ato Simelash Bezabeh	1
1594	Ato Selomon Asefa Haile	Ato Selomon Asefa Haile	1

	left_side	right_side	similairity
1595	Ato Selomon Asefa Haile	Ato Selomon Asefa Haile	1
1596	Ato Selomon Kebede Mamo	Ato Selomon Kebede Mamo	1
1597	Ato Selomon Kebede Mamo	Ato Selomon Kebede Mamo	1
1598	W/ro Rahel Hailu	W/ro Rahel Hailu	1
1599	W/ro Rahel Hailu	W/ro Rahel Hailu	1
1601	Ato Bahiru Ashene Gobe	Ato Bahiru Ashene Gobe	1
1603	Ato Alimawu Mengiste	Ato Alimawu Mengiste	1
1604	W/ro Seada Kededer	W/ro Seada Kededer	1
1605	W/ro Seada Kededer	W/ro Seada Kededer	1
1606	Dr Michael Mehari	Dr Michael Mehari	1
1607	Ato samuel Husen	Ato samuel Husen	1
1608	Dr Beshah Mogese	Dr Beshah Mogese	1
1609	W/ro Shewanesh Demeke	W/ro Shewanesh Demeke	1
1610	W/ro Shewanesh Demeke	W/ro Shewanesh Demeke	1
1611	Ato Wana Wake	Ato Wana Wake	1
1612	Ato Wana Wake	Ato Wana Wake	1
1614	Dr Abreham Belay	Dr Abreham Belay	1
1615	Dr Abreham Belay	Dr Abreham Belay	1
1616	Dr Abreham Belay	Dr Abreham Belay	1
1617	Dr Abreham Belay	Dr Abreham Belay	1
1618	Dr Abreham Belay	Dr Abreham Belay	1
1619	W/ro Eyerusalem Nahusenay	W/ro Eyerusalem Nahusenay	1
1620	Ato Shiferaw Telila	Ato Shiferaw Telila	1
1622	W/rt Mebba Yebegaeshet Nahusenay	W/rt Mebba Yebegaeshet Nahusenay	1
1623	Dr Adanech Yared	Dr Adanech Yared	1
1624	W/ro Hirut Biresa	W/ro Hirut Biresa	1
1625	W/ro Hirut Biresa	W/ro Hirut Biresa	1
1627	Ato Getachew Gizaw	Ato Getachew Gizaw	1
1628	Ato Getachew Gizaw	Ato Getachew Gizaw	1
1630	Ato Fetene Teshome Tola	Ato Fetene Teshome Tola	1
1631	Ato Fetene Teshome Tola	Ato Fetene Teshome Tola	1
1633	Ato Kinfe Hailemariam Beyene	Ato Kinfe Hailemariam Beyene	1
1634	Ato Kinfe Hailemariam Beyene	Ato Kinfe Hailemariam Beyene	1
1636	Ato Tamene Hailu	Ato Tamene Hailu	1
1638	Ato Mesay Demise Zeleke	Ato Mesay Demise Zeleke	1
1639	Ato Tamiru Fikadu	Ato Tamiru Fikadu	1
1640	Ato Tamiru Fikadu	Ato Tamiru Fikadu	1
1641	Ato Ajanaw Fenta	Ato Ajanaw Fenta	1
1642	Ato Ajanaw Fenta	Ato Ajanaw Fenta	1
1643	W/ro Roman Gebresilase	W/ro Roman Gebresilase	1
1644	W/ro Roman Gebresilase	W/ro Roman Gebresilase	1

	left_side	right_side	similairity
1646	W/ro Fikirte Tamir	W/ro Fikirte Tamir	1
1647	W/ro Fikirte Tamir	W/ro Fikirte Tamir	1
1648	Ato Tagel Kenubeh	Ato Tagel Kenubeh	1
1649	Ato Tagel Kenubeh	Ato Tagel Kenubeh	1
1651	Ato Getahun Moges	Ato Getahun Moges	1
1652	Ato Getahun Moges	Ato Getahun Moges	1
1653	Ato Masresha G/Silase Gidi	Ato Masresha G/Silase Gidi	1
1654	Ato Masresha G/Silase Gidi	Ato Masresha G/Silase Gidi	1
1656	Ato Tadese H/Mariam	Ato Tadese H/Mariam	1
1657	Ato Tadese H/Mariam	Ato Tadese H/Mariam	1
1658	Ato Araya G/Egziaber Mehari	Ato Araya G/Egziaber Mehari	1
1661	Dr Zerihun Duresa	Dr Zerihun Duresa	1
1662	Dr Zerihun Duresa	Dr Zerihun Duresa	1
1664	Ato Werke Getahun	Ato Werke Getahun	1
1665	Ato Temesgen Tilahun	Ato Temesgen Tilahun	1
1666	Ato Temesgen Tilahun	Ato Temesgen Tilahun	1
1667	Ato Temesgen Tilahun	Ato Temesgen Tilahun	1
1670	Dr Andualem Admase	Dr Andualem Admase	1
1671	Ato Tamirat Mola	Ato Tamirat Mola	1
1673	Ato Getachew Negash Tekla	Ato Getachew Negash Tekla	1
1674	Ato Getachew Negash Tekla	Ato Getachew Negash Tekla	1
1676	Ato Alemishet Birhanemeskel	Ato Alemishet Birhanemeskel	1
1677	Ato Elias Awako	Ato Elias Awako	1
1678	Ato Habtamu Kibret Ijigu	Ato Habtamu Kibret Ijigu	1
1679	Ato Habtamu Kibret Ijigu	Ato Habtamu Kibret Ijigu	1
1681	Ato teshome Lema	Ato teshome Lema	1
1682	Ato teshome Lema	Ato teshome Lema	1
1683	Dr Admasu Shibiru	Dr Admasu Shibiru	1
1684	Dr Admasu Shibiru	Dr Admasu Shibiru	1
1685	W/ro Kefelech Denboba	W/ro Kefelech Denboba	1
1686	W/ro Kefelech Denboba	W/ro Kefelech Denboba	1
1688	Dr Tesfaye Muhiye Endris	Dr Tesfaye Muhiye Endris	1
1690	Dr Nurlign Tefera	Dr Nurlign Tefera	1
1691	Dr Lemi Guta	Dr Lemi Guta	1
1692	Ato Teshale Berecha Yadesa	Ato Teshale Berecha Yadesa	1
1693	Ato Seifu Tadese Ireru	Ato Seifu Tadese Ireru	1
1694	Ato Iniyew Getinet Bitew	Ato Iniyew Getinet Bitew	1
1695	Ato Habtom G/Egziaber	Ato Habtom G/Egziaber	1
1696	W/ro Heran Gerba	W/ro Heran Gerba	1
1697	W/ro Heran Gerba	W/ro Heran Gerba	1
1698	Dr Keyiredin Redi Aman	Dr Keyiredin Redi Aman	1

	left_side	right_side	similairity
1699	Dr Keyiredin Redi Aman	Dr Keyiredin Redi Aman	1
1700	Dr Keyiredin Redi Aman	Dr Keyiredin Redi Aman	1
1701	Dr Tsigereda Kifle Walde	Dr Tsigereda Kifle Walde	1
1704	Ato Abreham Gebremedin G/Silase	Ato Abreham Gebremedin G/Silase	1
1707	Dr Mizan Kiros	Dr Mizan Kiros	1
1708	Dr Mizan Kiros	Dr Mizan Kiros	1
1709	Dr Mizan Kiros	Dr Mizan Kiros	1
1710	Dr Mizan Kiros	Dr Mizan Kiros	1
1711	Ato Alemu Agno	Ato Alemu Agno	1
1712	Dr Abebe Genetu	Dr Abebe Genetu	1
1714	Dr Alemsegid Admasu	Dr Alemsegid Admasu	1
1715	W/ro Yamrot Andualem	W/ro Yamrot Andualem	1
1716	W/ro Yamrot Andualem	W/ro Yamrot Andualem	1
1717	W/ro Tsigereda Kiflelde	W/ro Tsigereda Kiflelde	1
1721	Dr Eba Abate Waktola	Dr Eba Abate Waktola	1
1722	Dr Eba Abate Waktola	Dr Eba Abate Waktola	1
1723	Dr Beyene Moges Agze	Dr Beyene Moges Agze	1
1724	Dr Loko Abreham	Dr Loko Abreham	1
1725	Dr Loko Abreham	Dr Loko Abreham	1
1727	Ato Mehari Tekeste Tesfasgi	Ato Mehari Tekeste Tesfasgi	1
1728	Ato Mehari Tekeste Tesfasgi	Ato Mehari Tekeste Tesfasgi	1
1729	Ato Tesfalem Adraro Akilo	Ato Tesfalem Adraro Akilo	1
1731	Ato Goyitom Gigar Abera	Ato Goyitom Gigar Abera	1
1733	Ato Yeakob Seman	Ato Yeakob Seman	1
1734	Dr Wendimagegn Gezakegn	Dr Wendimagegn Gezakegn	1
1736	Dr Birhane Redai	Dr Birhane Redai	1
1737	Dr Birhane Redai	Dr Birhane Redai	1
1738	Ato Edao Fajo Hamda	Ato Edao Fajo Hamda	1
1739	Ato Edao Fajo Hamda	Ato Edao Fajo Hamda	1
1740	Ato Dagnew Hagezo	Ato Dagnew Hagezo	1
1742	Dr Mizan Kiros	Dr Mizan Kiros	1
1743	Dr Mizan Kiros	Dr Mizan Kiros	1
1744	Dr Mizan Kiros	Dr Mizan Kiros	1
1745	Dr Mizan Kiros	Dr Mizan Kiros	1
1746	Ato Gemechu Weyuma	Ato Gemechu Weyuma	1
1748	Ato Dereje Wube Mekasha	Ato Dereje Wube Mekasha	1
1751	Ato Yerisitu Yirgaw	Ato Yerisitu Yirgaw	1
1752	Ato Getachew Balcha Kelo	Ato Getachew Balcha Kelo	1
1753	Ato Getachew Balcha Kelo	Ato Getachew Balcha Kelo	1
1754	Ato Anbesaw Eniyew	Ato Anbesaw Eniyew	1
1755	Ato Fikadu Mekuria	Ato Fikadu Mekuria	1

	left_side	right_side	similairity
1756	Ato Fikadu Mekuria	Ato Fikadu Mekuria	1
1757	Ato Fikadu Mekuria	Ato Fikadu Mekuria	1
1758	Ato Desta Bezabeh G/Hiwot	Ato Desta Bezabeh G/Hiwot	1
1759	Ato W/Gebriel Mezgebu	Ato W/Gebriel Mezgebu	1
1760	Ato W/Gebriel Mezgebu	Ato W/Gebriel Mezgebu	1
1761	Ato W/Gebriel Mezgebu	Ato W/Gebriel Mezgebu	1
1762	Ato Mekonen Yidersal	Ato Mekonen Yidersal	1
1763	Ato Mekonen Yidersal	Ato Mekonen Yidersal	1
1764	Ato Mekonen Yidersal	Ato Mekonen Yidersal	1
1765	W/ro Fantanesh Gezahegn	W/ro Fantanesh Gezahegn	1
1766	Ato Bizuneh Kaba	Ato Bizuneh Kaba	1
1767	Ato Yohanis Desta Tsegaye	Ato Yohanis Desta Tsegaye	1
1768	Ato kasim Fete	Ato kasim Fete	1
1769	Ato Yikunoamlak Mezgebu	Ato Yikunoamlak Mezgebu	1
1771	Ato Manyazewal Andesa	Ato Manyazewal Andesa	1
1773	W/ro Aster Dawit	W/ro Aster Dawit	1
1776	Ato Debele Kabeta	Ato Debele Kabeta	1
1777	Ato Debele Kabeta	Ato Debele Kabeta	1
1778	W/ro Misrak Mamo	W/ro Misrak Mamo	1
1781	Ato Azezew Chane	Ato Azezew Chane	1
1782	Ato Azezew Chane	Ato Azezew Chane	1
1783	Ato Mulugeta Beyene	Ato Mulugeta Beyene	1
1785	Ato Geremew Garje Gediba	Ato Geremew Garje Gediba	1
1786	Ato Geremew Garje Gediba	Ato Geremew Garje Gediba	1
1788	Ato Biratu Yigezu	Ato Biratu Yigezu	1
1789	Ato Biratu Yigezu	Ato Biratu Yigezu	1
1790	Ato Biratu Yigezu	Ato Biratu Yigezu	1
1793	Ato Amare Legese	Ato Amare Legese	1
1796	W/rt Aberash Tariku	W/rt Aberash Tariku	1
1799	Ato Asalifew Abera	Ato Asalifew Abera	1
1800	Ato Asalifew Abera	Ato Asalifew Abera	1
1801	Ato Ahimed Abitew Asfaw	Ato Ahimed Abitew Asfaw	1
1803	Dr Yohanis Ayalew	Dr Yohanis Ayalew	1
1806	Ato Alemnew Mekonin	Ato Alemnew Mekonin	1
1808	Ato Teferi Tiyara Rebu	Ato Teferi Tiyara Rebu	1
1809	Ato Teferi Tiyara Rebu	Ato Teferi Tiyara Rebu	1
1810	Ato Alebal Dase	Ato Alebal Dase	1
1811	Ato Tesfaye Shimalis Bekele	Ato Tesfaye Shimalis Bekele	1
1812	Ato Agilachew Hadis Agilachew	Ato Agilachew Hadis Agilachew	1
1813	Ato Agilachew Hadis Agilachew	Ato Agilachew Hadis Agilachew	1
1814	Ato Mehamud Ahimed Gais	Ato Mehamud Ahimed Gais	1

	left_side	right_side	similairity
1815	Ato Wedo Ato Wato	Ato Wedo Ato Wato	1
1816	Ato Tium Gebre Hailu	Ato Tium Gebre Hailu	1
1817	Ato Tium Gebre Hailu	Ato Tium Gebre Hailu	1
1818	Ato Rahil Hailu kasaye	Ato Rahil Hailu kasaye	1
1819	Ato Rahil Hailu kasaye	Ato Rahil Hailu kasaye	1
1820	Ato Sinishaw Alamirew Tirfe	Ato Sinishaw Alamirew Tirfe	1
1823	Ato Ayelign Mulualem Tafe	Ato Ayelign Mulualem Tafe	1
1824	Ato Ayelign Mulualem Tafe	Ato Ayelign Mulualem Tafe	1
1826	Ato Tebabal Wudneh Gelaye	Ato Tebabal Wudneh Gelaye	1
1827	Ato Tebabal Wudneh Gelaye	Ato Tebabal Wudneh Gelaye	1
1830	Dr Iyasu Abreha Ale	Dr Iyasu Abreha Ale	1
1832	Ato Selomon Tesfaye Tefera	Ato Selomon Tesfaye Tefera	1
1833	Ato Mehamed Shemsu Suliman	Ato Mehamed Shemsu Suliman	1
1834	Ato Mehamed Shemsu Suliman	Ato Mehamed Shemsu Suliman	1
1835	Ato Degife Bula Wakjira	Ato Degife Bula Wakjira	1
1836	Ato Niguse Beyene Belewu	Ato Niguse Beyene Belewu	1
1838	W/ro Abebech Negash Kahisay	W/ro Abebech Negash Kahisay	1
1840	Ato Asmelash W/Silase	Ato Asmelash W/Silase	1
1841	Ato getachew Bedane Abawulew	Ato getachew Bedane Abawulew	1
1842	Ato Bekele Mengistu Tesema	Ato Bekele Mengistu Tesema	1
1843	Ato Bekele Mengistu Tesema	Ato Bekele Mengistu Tesema	1
1844	Ato Asmelash Bezabeh Hagos	Ato Asmelash Bezabeh Hagos	1
1847	Ato Tazer G/Egziaber Berha	Ato Tazer G/Egziaber Berha	1
1850	W/ro Almaz Tilahun Tirfe	W/ro Almaz Tilahun Tirfe	1
1852	Ato Hadush G/Egziaber W/Silase	Ato Hadush G/Egziaber W/Silase	1
1854	Ato Teshome Alemayew Abebe	Ato Teshome Alemayew Abebe	1
1855	Ato Teshome Alemayew Abebe	Ato Teshome Alemayew Abebe	1
1856	Ato Getachew Wake Bulcha	Ato Getachew Wake Bulcha	1
1857	Ato Getachew Wake Bulcha	Ato Getachew Wake Bulcha	1
1858	Ato H/Eyesus Bekele Abse	Ato H/Eyesus Bekele Abse	1
1859	Ato Gemechu Dibiso Godana	Ato Gemechu Dibiso Godana	1
1861	W/ro Semeret Damte Chanyalew	W/ro Semeret Damte Chanyalew	1
1862	W/ro Semeret Damte Chanyalew	W/ro Semeret Damte Chanyalew	1
1863	W/ro Bayush Tesfaye Mekicha	W/ro Bayush Tesfaye Mekicha	1
1864	Ato Hunde Melka Yadete	Ato Hunde Melka Yadete	1
1865	Ato Hunde Melka Yadete	Ato Hunde Melka Yadete	1
1866	Ato Birhanu Abera Ashenafi	Ato Birhanu Abera Ashenafi	1
1867	Ato Birhanu Abera Ashenafi	Ato Birhanu Abera Ashenafi	1
1868	Ato Teferi Fikre Gosaye	Ato Teferi Fikre Gosaye	1
1869	Ato Teferi Fikre Gosaye	Ato Teferi Fikre Gosaye	1
1870	Ato Yidnekachew Werku Kasa	Ato Yidnekachew Werku Kasa	1

	left_side	right_side	similairity
1872	Dr Kuang Phupulam Dunge	Dr Kuang Phupulam Dunge	1
1873	Ato Kaidan Kazahegn Bailamak	Ato Kaidan Kazahegn Bailamak	1
1874	Ato Mulugeta Tadese Asegedom	Ato Mulugeta Tadese Asegedom	1
1876	Colonel Tsegaye T/Medihin	Colonel Tsegaye T/Medihin	1
1877	W/ro Senia Sani	W/ro Senia Sani	1
1878	W/ro Senia Sani	W/ro Senia Sani	1
1879	Ato Alemayew Asefa Adeto	Ato Alemayew Asefa Adeto	1
1881	W/ro Serawit Sileshi Gardew	W/ro Serawit Sileshi Gardew	1
1882	Ato Abebe Zeliul Gonete	Ato Abebe Zeliul Gonete	1
1883	Ato Meresa G/Yohanis Asfawesen	Ato Meresa G/Yohanis Asfawesen	1
1885	Ato Ali Suleyman Mehamed	Ato Ali Suleyman Mehamed	1
1886	Ato Ali Suleyman Mehamed	Ato Ali Suleyman Mehamed	1
1887	Ato Mehamed Ahimed Yishaw	Ato Mehamed Ahimed Yishaw	1
1890	Ato Endale Haile	Ato Endale Haile	1
1891	Ato Hadishom Tium Ariaya	Ato Hadishom Tium Ariaya	1
1893	Ato Abel Adamu Gebeyew	Ato Abel Adamu Gebeyew	1
1894	Ato Abel Adamu Gebeyew	Ato Abel Adamu Gebeyew	1
1895	Ato Tesfalem Adrar Angolo	Ato Tesfalem Adrar Angolo	1
1896	Ato Tesfalem Adrar Angolo	Ato Tesfalem Adrar Angolo	1
1897	Ato Bekalu Zeleke Ewunetu	Ato Bekalu Zeleke Ewunetu	1
1898	Ato Aselifew Abera Gebre	Ato Aselifew Abera Gebre	1
1899	Ato Aselifew Abera Gebre	Ato Aselifew Abera Gebre	1
1900	Ato Aman Legese Reda	Ato Aman Legese Reda	1
1901	Ato Aman Legese Reda	Ato Aman Legese Reda	1
1902	Aro Biratu Yigezu Yigezu	Aro Biratu Yigezu Yigezu	1
1907	W/ro Aberash Tariku Abay	W/ro Aberash Tariku Abay	1
1908	W/ro Aberash Tariku Abay	W/ro Aberash Tariku Abay	1
1909	Ato Fikadu Seboka Gemeda	Ato Fikadu Seboka Gemeda	1
1911	Ato Kasim Fete Dano	Ato Kasim Fete Dano	1
1912	Ato Kasim Fete Dano	Ato Kasim Fete Dano	1
1913	Ato Yonas Desta Tsegaye	Ato Yonas Desta Tsegaye	1
1914	Ato Yonas Desta Tsegaye	Ato Yonas Desta Tsegaye	1
1915	Ato Yonas Desta Tsegaye	Ato Yonas Desta Tsegaye	1
1916	Ato Buzena Albedir Hadizira	Ato Buzena Albedir Hadizira	1
1917	W/ro Bizunesh Meseret Tegegn	W/ro Bizunesh Meseret Tegegn	1
1918	W/ro Bizunesh Meseret Tegegn	W/ro Bizunesh Meseret Tegegn	1
1919	Ato Mulugeta Wuletaw Wedaje	Ato Mulugeta Wuletaw Wedaje	1
1920	Ato Mulugeta Wuletaw Wedaje	Ato Mulugeta Wuletaw Wedaje	1
1921	Ato Mulugeta Wuletaw Wedaje	Ato Mulugeta Wuletaw Wedaje	1
1922	Ato Mehamed Abdu Ahimed	Ato Mehamed Abdu Ahimed	1
1924	Ato Getachew Hailemariam Abay	Ato Getachew Hailemariam Abay	1

	left_side	right_side	similairity
1925	Ato Nigus Lema Gebre	Ato Nigus Lema Gebre	1
1927	Dr Mebratu G/Mariam Kalo	Dr Mebratu G/Mariam Kalo	1
1928	Dr Mebratu G/Mariam Kalo	Dr Mebratu G/Mariam Kalo	1
1930	Ato Werdi Hashim	Ato Werdi Hashim	1
1931	Ato Werdi Hashim	Ato Werdi Hashim	1
1932	Ato Werdi Hashim	Ato Werdi Hashim	1
1934	Ato Amare Admasu Zewude	Ato Amare Admasu Zewude	1
1936	Ato Mulugeta G/Tsadik	Ato Mulugeta G/Tsadik	1
1938	Ato teshome Lema	Ato teshome Lema	1
1939	Ato teshome Lema	Ato teshome Lema	1
1940	Ato Yebegaeshet Nahusnay Fentahun	Ato Yebegaeshet Nahusnay Fentahun	1
1948	Ato Yebegaeshet Nahusenaye Fantahune	Ato Yebegaeshet Nahusenaye Fantahune	1
1958	Ato Yebegaeshet Nahusenai Fantahune	Ato Yebegaeshet Nahusenai Fantahune	1
1967	Ato Yebegashet Nahusenay Fantahun	Ato Yebegashet Nahusenay Fantahun	1
1977	Ato Yebegashet Nahusnay Fantahun	Ato Yebegashet Nahusnay Fantahun	1
1986	Ato Yebegashet Nahusenaye Fantahun	Ato Yebegashet Nahusenaye Fantahun	1
1996	Ato Yebegashet Nahusenai Fantahun	Ato Yebegashet Nahusenai Fantahun	1

1.1.3 Experiment III: Levenstein Distance

Test Scenario I: - ['Similarity_Scores']>=75] Matched_Names=get_matches("Bizunesh Meseret Tegegn",data['Names'])

In this experiment, the similarities of the list of instance with Similarity_Scores >=50 and "Bizunesh Meseret Tegegn" is the attribute or matching. Performing selection Algorithm to predicate for all exact matches.

```
import pandas as pd
import numpy as np

data= pd.read_csv('fuzzy.csv')
data.head(5)



from fuzzywuzzy import process


def get_matches(query,choices,limit=50):
    result=process.extract(query,choices,limit=limit)
    df = pd.DataFrame (result, columns = ['Similar_Names','Similarity_Scores','index_position'])
    df=df[df['Similarity_Scores']>=75]
    return df


Matched_Names=get_matches("Bizunesh Meseret Tegegn",data['Names'])

Matched_Names


Matched_Names.to_csv('Similar_name_score.csv')
```

Table 4.5.3 Result of Levenstein Distance similarity-with ['Similarity_Scores']>=75] and Matched_Names=get_matches("Bizunesh Meseret Tegegn",data['Names']) scenario

The output in table form with four column. The first column indicate the order from the most maches list in order. The Second column show the listsimilar names those match with the attribute and the third is give us the similarity score between the lists of name with the sample attribute predict by algorithm. The final Column indicate the index position that the exact match name is found from the uploaded darta.

	Similar_Names	Similarity_Scores	index_position
0	W/ro Bizunesh Meseret Tegegn	95	481
1	W/ro Bizunesh Meseret Tegegn	95	1023
2	Her Excellency W/ro Bizunesh Meseret	86	642
3	Her Excellency W/ro Meseret Meskele	86	651
4	Her Excellency W/ro Bizunesh Meseret	86	1262
5	HrE w/ro Bizunesh Meseret	78	102

1.1.4 Experiment IV: Levenstein Distance

Test Scenario II: - ['Similarity_Scores']>=70] Matched_Names=get_matches("Yebegaeshet Nahusenay Fentahun",data['Names'])

In this experiment, the similarities of the list of instance with Similarity_Scores >=70 and "Yebegaeshet Nahusenay Fentahun" is the attribute or matching. Performing selection Algorithm to predicate for all exact matches.

```
import pandas as pd
import numpy as np

data= pd.read_csv('fuzzy.csv')
data.head(5)



from fuzzywuzzy import process


def get_matches(query,choices,limit=50):
    result=process.extract(query,choices,limit=limit)
    df = pd.DataFrame (result, columns = ['Similar_Names','Similarity_Scores','index_position'])
    df=df[df['Similarity_Scores']>=70]
    return df


Matched_Names=get_matches("Yebegaeshet Nahusenay Fentahun",data['Names'])

Matched_Names


Matched_Names.to_csv('Similar_name_score.csv')
```

Table 4.5.4 Result of Levenstein Distance similarity-with ['Similarity_Scores']>=70] Matched_Names=get_matches("Yebegaeshet Nahusenay Fentahun",data['Names']) scenario

The output in table form with four column. The first column indicate the order from the most maches list in order. The Second column show the listsimilar names those match with the attribute and the third is give us the similarity score between the lists of name with the sample attribute predict by algorithm. The final Column indicate the index position that the exact match name is found from the uploaded data.

	Similar_Names	Similarity_Scores	index_position
0	Ato Yebegaeshet Nahusenay Fentahun	95	504
1	Ato Yebegaeshet Nahusnay Fentahun	92	1033
2	Ato Yebegaeshet Nahusenaye Fentahun	92	1151
3	Ato Yebegaeshet Nahusenay Fentahune	92	1279
4	Ato Yebegashet Nahusenay Fentahun	92	1324
5	Ato Yebegaeshet Nahusenai Fentahun	91	1096
6	Ato Yebegaeshet Nahusenay Fantahun	91	1097
7	Ato Yebegaeshet Nahusenaye Fentahune	91	1301
8	Ato Yebegashet Nahusenaye Fentahun	91	1334
9	Ato Yebegashet Nahusenay Fentahune	91	1476
10	Ato Yebegashet Nahusnay Fentahun	90	1329
11	Ato Yebegaeshet Nahusenay Fantahune	89	505
12	Ato Yebegashet Nahusenay Fantahun	89	1036
13	Ato Yebegaeshet Nahusenaye Fantahun	89	1152
14	Ato Yebegaeshet Nahusenai Fentahune	89	1311
15	Ato Yebegashet Nahusenai Fentahun	89	1406
16	Ato Yebegashet Nahusnay Fentahune	89	1525
17	Ato Yebegashet Nahusenaye Fentahune	89	1572
18	Ato Yebegaeshet Nahusenaye Fantahune	88	1034
19	Ato Yebegashet Nahusenaye Fantahun	88	1038
20	Ato Yebegashet Nahusenay Fantahune	88	1040
21	Ato Yebegashet Nahusnay Fantahun	87	1037
22	Ato Yebegaeshet Nahusenai Fantahune	86	1035
23	Ato Yebegashet Nahusenai Fantahun	86	1039
24	Ato Yebegashet Nahusnay Fantahune	86	1041
25	Ato Yebegashet Nahusenaye Fantahune	86	1042
26	Ato Yebegashet Nahusenai Fantahune	84	1043
27	W/rt Mebba Yebegaeshet Nahusenay	78	879
28	W/rt Menna Yebegaeshet Nahusnay	75	506
29	Ato Kaleab Nahusenay Fentahun	73	1573

1.1.5 Experiment V: Levenstein Distance

Test Scenario III: - ['Similarity_Scores']>=85] Matched_Names=get_matches("Yebegaeshet Nahusenay Fentahun",data['Names'])

In this experiment, the similarities of the list of instance with Similarity_Scores >=85 and "Yebegaeshet Nahusenay Fentahun" is the attribute or matching. Performing selection Algorithm to predicate for all exact matches.

```
import pandas as pd
import numpy as np

data= pd.read_csv('fuzzy.csv')
data.head(5)



from fuzzywuzzy import process


def get_matches(query,choices,limit=50):
    result=process.extract(query,choices,limit=limit)
    df = pd.DataFrame (result, columns = ['Similar_Names','Similarity_Scores','index_position'])
    df=df[df['Similarity_Scores']>=85]
    return df


Matched_Names=get_matches("Yebegaeshet Nahusenay Fentahun",data['Names'])

Matched_Names


Matched_Names.to_csv('Similar_name_score.csv')
```

Table 4.5.5 Result of Levenstein Distance similarity-with ['Similarity_Scores']>=85] Matched_Names=get_matches("Yebegaeshet Nahusenay Fentahun",data['Names'])scenario

The output in table form with four column. The first column indicate the order from the most maches list in order. The Second column show the listsimilar names those match with the attribute and the third is give us the similarity score between the lists of name with the sample attribute predict by algorithm. The final Column indicate the index position that the exact match name is found from the uploaded darta.

	Similar_Names	Similarity_Scores	index_position
0	Ato Yebegaeshet Nahusenay Fentahun	95	504
1	Ato Yebegaeshet Nahusnay Fentahun	92	1033
2	Ato Yebegaeshet Nahusenaye Fentahun	92	1151
3	Ato Yebegaeshet Nahusenay Fentahune	92	1279
4	Ato Yebegashet Nahusenay Fentahun	92	1324
5	Ato Yebegaeshet Nahusenai Fentahun	91	1096
6	Ato Yebegaeshet Nahusenay Fantahun	91	1097
7	Ato Yebegaeshet Nahusenaye Fentahune	91	1301
8	Ato Yebegashet Nahusenaye Fentahun	91	1334
9	Ato Yebegashet Nahusenay Fentahune	91	1476
10	Ato Yebegashet Nahusnay Fentahun	90	1329
11	Ato Yebegaeshet Nahusenay Fantahune	89	505
12	Ato Yebegashet Nahusenay Fantahun	89	1036
13	Ato Yebegaeshet Nahusenaye Fantahun	89	1152
14	Ato Yebegaeshet Nahusenai Fentahune	89	1311
15	Ato Yebegashet Nahusenai Fentahun	89	1406
16	Ato Yebegashet Nahusnay Fentahune	89	1525
17	Ato Yebegashet Nahusenaye Fentahune	89	1572
18	Ato Yebegaeshet Nahusenaye Fantahune	88	1034
19	Ato Yebegashet Nahusenaye Fantahun	88	1038
20	Ato Yebegashet Nahusenay Fantahune	88	1040
21	Ato Yebegashet Nahusnay Fantahun	87	1037
22	Ato Yebegaeshet Nahusenai Fantahune	86	1035
23	Ato Yebegashet Nahusenai Fantahun	86	1039
24	Ato Yebegashet Nahusnay Fantahune	86	1041
25	Ato Yebegashet Nahusenaye Fantahune	86	1042