```
In [1]:
      !pip install PyPDF2
     Collecting PyPDF2
       Downloading pypdf2-3.0.1-py3-none-any.whl.metadata (6.8 kB)
     Downloading pypdf2-3.0.1-py3-none-any.whl (232 kB)
       ----- 0.0/232.6 kB ? eta -:--:--
       - ----- 10.2/232.6 kB ? eta -:--:-
       - ----- 10.2/232.6 kB ? eta -:--:--
       - ----- 10.2/232.6 kB ? eta -:--:-
          ----- 71.7/232.6 kB 393.8 kB/s eta 0:00:01
          ----- 122.9/232.6 kB 514.3 kB/s eta 0:00:01
       ----- 122.9/232.6 kB 514.3 kB/s eta 0:00:01
          ----- 174.1/232.6 kB 499.5 kB/s eta 0:00:01
       ----- 174.1/232.6 kB 499.5 kB/s eta 0:00:01
          ------ 174.1/232.6 kB 499.5 kB/s eta 0:00:01
         ----- 174.1/232.6 kB 499.5 kB/s eta 0:00:01
         ----- 174.1/232.6 kB 499.5 kB/s eta 0:00:01
          ----- 174.1/232.6 kB 499.5 kB/s eta 0:00:01
         ----- 174.1/232.6 kB 499.5 kB/s eta 0:00:01
       ----- 174.1/232.6 kB 499.5 kB/s eta 0:00:01
         ----- 225.3/232.6 kB 320.0 kB/s eta 0:00:01
       ----- 232.6/232.6 kB 316.3 kB/s eta 0:00:00
     Installing collected packages: PyPDF2
     Successfully installed PyPDF2-3.0.1
In [37]: import PyPDF2
      from PyPDF2 import PdfFileReader
      PyPDF2.__version__
In [39]:
Out[39]: '3.0.1'
In [41]: | pdf = open(r"C:\Users\Vaish\Desktop\NLP(AD)\file1pdf.pdf","rb")
      pdf_reader = PyPDF2.PdfReader(pdf)
      print("Number of pages:",len(pdf_reader.pages))
      page=pdf_reader.pages[1]
      print(page.extract_text())
      pdf.close()
```

Number of pages: 35

Development Plan for Greater Mumbai 2014-2034

```
Acknowledgements
       The Consultant wishes to thank the following individuals from the Municipal Corp
       oration of
       Greater Mumbai for their invaluable support, insights and contributions towards 'W
       orking Paper 1
       - Preparation of Base Map' for the preparation of the Development Plan for Greate
       r Mumbai
       2014-34.

② Mr. Subodh Kumar, IAS, Municipal Commissioner;
       Mr. Rajeev Kuknoor, Chief Engineer Development Plan;
       Mr. Sudhir Ghate, Deputy Chief Engineer Development Plan;
       ☑ Mr. A.G. Marathe, Deputy Chief Engineer Development Plan;
       Mr. R. Balachandran, Executive Engineer and Town Planning Officer, Development
        Plan.
        Our gratitude to the following experts for their invaluable insights and suppor
       t:
       Mr. V.K Phatak, Former Chief Town Planner (MMRDA);
       Mr. A.N Kale, Former Chief Engineer, (DP);

☑ Mr. A. S Jain Former Dy. Chief Engineer, (DP).

        We wish to especially thank MCGM officers, Mr. Jagdish Talreja, Mr. Dinesh Naik, M
       r. Hiren
       Daftardar, Ms. Anita Naik for their continual support since the
        beginning of the project and their
       help towards familiarization and data collection. They have been instrumental i
       n helping to
       contact various MCGM departments as well as in helping to establish contact with pe
       rsonnel from
       other government departments and organizations. Many thanks for the MCGM team, fo
       deploying personnel, particularly Mr. Prasad Gharat, on extensive field visits t
       hat have helped in
       understanding actual ground conditions.
       We apologize if we have inadvertently omitted anyone to whom acknowledgement is d
       ue. We hope
       and anticipate the work's usefulness for the intended purpose.
In [43]: import PyPDF2,urllib,nltk
         from io import BytesIO
         from nltk.tokenize import word tokenize
         from nltk.corpus import stopwords
In [45]: #Reading the PDF
```

wFile = urllib.request.urlopen('http://www.udri.org/pdf/02%20working%20paper%201.pd

pdfreader = PyPDF2.PdfReader(BytesIO(wFile.read()))

```
In [51]: #extracting page 2 of the docuemnt

pageObj = pdfreader.pages[2]
page2 = pageObj.extract_text()
punctuations = ['(',')',';',':','[',']',',','...',']
tokens = word_tokenize(page2)
stop_words = stopwords.words('english')
keywords = [word for word in tokens if not word in stop_words and not word in punct
In [53]: keywords
```

```
Out[53]: ['Development',
         'Plan',
         'Greater',
         'Mumbai',
         '2014-2034',
         'Table',
         'Contents',
         'The',
         'Consultant',
         'wishes',
         'thank',
         'following',
         'individuals',
         'Municipal',
         'Corporation',
         'Greater',
         'Mumbai',
         'invaluable',
         'support',
         'insights',
         'contributions',
         'towards',
         ٠٠٠,
         'Working',
         'Paper',
         '1',
         'Preparation',
         'Base',
         'Map',
         ,,,
         'preparation',
         'Development',
         'Plan',
         'Greater',
         'Mumbai',
         '2014-34',
        '.....
        ......
         1,....,,
         '3',
         'Our',
         'gratitude',
         'following',
         'experts',
         'invaluable',
         'insights',
         'support',
         '3',
         'We',
         'wish',
         'especially',
         'thank',
         'MCGM',
```

```
'officers',
'Mr.',
'Jagdish',
'Talreja',
'Mr.',
'Dinesh',
'Naik',
'Mr.',
'Hiren',
'Daftardar',
'Ms.',
'Anita',
'Naik',
'continual',
'support',
'since',
'beginning',
'project',
'help',
'towards',
'familiarization',
'data',
'collection',
'They',
'instrumental',
'helping',
'contact',
'various',
'MCGM',
'departments',
'well',
'helping',
'establish',
'contact',
'personnel',
'government',
'departments',
'organizations',
'Many',
'thanks',
'MCGM',
'team',
'deploying',
'personnel',
'particularly',
'Mr.',
'Prasad',
'Gharat',
'extensive',
'field',
'visits',
'helped',
'understanding',
'actual',
'ground',
'conditions',
```

```
.
. . . . . . . ' .
'3',
'BEST',
'
1
'5',
'Brihanmumbai',
'Electric',
'Supply',
'Transport',
'Undertaking',
'
'5',
'CIDCO',
'.....
'....'.
'5',
'City',
'Industrial'.
'Development',
'Corporation',
'.....'.
'CTP',
'
1
'....,
'5',
'Comprehensive',
'Transportation',
'Plan',
!
'5',
'DP',
'
'.....
'5',
'Development',
'Plan',
'
'5',
'DPGM34',
```

```
'.....
. . . . . . . . . . . ,
'5',
'Development',
'Plan',
'Greater',
'Mumbai',
'2034',
'
. . . . . . ' ,
'5',
'DCR',
'
'.....',
'5',
'Development',
'Control',
'Regulations',
'
'5',
'DGPS',
'
'5',
'Digital',
'Global',
'Positioning',
'System',
'
'5',
'DPGM',
l
-------
1 . . . . . . . . . . . . . . . . ,
'5',
'Development',
'Plan',
'Greater',
'Mumbai',
'
. . . . . . . . . . ' ,
'5',
'ELU',
```

```
ı
ر ..... .
     '5',
     'Existing',
     'Land',
     'use',
    .....,
     '5',
     'FSI',
    1.....
    '5',
     'Floor',
     'Space',
     'Index',
    '.....
    '5',
     'GIS',
    ......
     '5']
In [57]: name_list = list()
    check = ['Mr.','Mrs.','Ms.']
    for idx, token in enumerate(tokens):
      if token.startswith(tuple(check)) and idx < (len(tokens)-1):</pre>
        name = token + tokens[idx+1] + ' ' + tokens[idx+2]
        name_list.append(name)
    print(name_list)
   ['Mr.Jagdish Talreja', 'Mr.Dinesh Naik', 'Mr.Hiren Daftardar', 'Ms.Anita Naik', 'Mr.
   Prasad Gharat']
In [59]: wFile.close()
In [61]: !pip install python-docx
```

```
Collecting python-docx
       Downloading python_docx-1.1.2-py3-none-any.whl.metadata (2.0 kB)
     Requirement already satisfied: lxml>=3.1.0 in c:\users\vaish\anaconda3\lib\site-pack
     ages (from python-docx) (5.2.1)
     Requirement already satisfied: typing-extensions>=4.9.0 in c:\users\vaish\anaconda3
     \lib\site-packages (from python-docx) (4.12.2)
     Downloading python_docx-1.1.2-py3-none-any.whl (244 kB)
        ----- 0.0/244.3 kB ? eta -:--:--
        - ----- 10.2/244.3 kB ? eta -:--:--
        ---- 30.7/244.3 kB 163.8 kB/s eta 0:00:02
        ---- 30.7/244.3 kB 163.8 kB/s eta 0:00:02
        ----- 41.0/244.3 kB 150.6 kB/s eta 0:00:02
        ----- 41.0/244.3 kB 150.6 kB/s eta 0:00:02
        ----- 71.7/244.3 kB 196.3 kB/s eta 0:00:01
        ----- 71.7/244.3 kB 196.3 kB/s eta 0:00:01
        ----- 71.7/244.3 kB 196.3 kB/s eta 0:00:01
        ----- 153.6/244.3 kB 327.3 kB/s eta 0:00:01
        ----- 153.6/244.3 kB 327.3 kB/s eta 0:00:01
        ----- 163.8/244.3 kB 272.8 kB/s eta 0:00:01
        ----- 235.5/244.3 kB 400.1 kB/s eta 0:00:01
        ----- 244.3/244.3 kB 394.1 kB/s eta 0:00:00
     Installing collected packages: python-docx
     Successfully installed python-docx-1.1.2
In [69]:
      import docx
      docu = open(r"C:\Users\Vaish\Downloads\Exercise 6 (1).docx","rb")
In [77]:
      document=docx.Document(doc)
      docu=""
In [79]:
      for para in document.paragraphs:
         docu += para.text
       print(docu)
```

```
Exercise: 6Create an android application using Explicit Intent.Right-click on the ja
va folder in the project structure. Select New > Activity > Empty Activity. Name the n
ew activity (e.g., SecondActivity).Click "Finish."activity_main.xml:-<?xml version</pre>
="1.0" encoding="utf-8"?><RelativeLayout xmlns:android="http://schemas.android.com/a
pk/res/android"
                   android:layout_width="match_parent"
                                                          android:layout_height="mat
                              android:id="@+id/button_navigate"
ch_parent">
               <Button
                                                                       android:layou
t_width="wrap_content"
                              android:layout_height="wrap_content"
                                                                          android:te
xt="Go to Second Activity"
                                  android:layout_centerInParent="true"/></RelativeLa</pre>
yout>activity second.xml:-<?xml version="1.0" encoding="utf-8"?><RelativeLayout xmln
s:android="http://schemas.android.com/apk/res/android"
                                                          android:layout_width="matc
h_parent"
             android:layout_height="match_parent">
                                                      <TextView
                                                                        android:id="@
                         android:layout_width="wrap_content"
+id/text_welcome"
                                                                    android:layout h
eight="wrap_content"
                            android:text="Welcome to the Second Activity!"
droid:textSize="24sp"
                             android:layout_centerHorizontal="true"
ayout marginTop="50dp" />
                             <TextView
                                              android:id="@+id/text subtitle"
android:layout_width="wrap_content"
                                           android:layout_height="wrap_content"
android:text="Here you can add more information."
                                                         android:textSize="16sp"
android:layout_below="@id/text_welcome"
                                               android:layout_centerHorizontal="tru
          android:layout_marginTop="20dp" />
                                                <Button
                                                               android:id="@+id/butt
on_back"
                android:layout_width="wrap_content"
                                                           android:layout_height="wr
ap_content"
                   android:text="Go Back"
                                                 android:layout_below="@id/text_subt
                                                           android:layout_marginTop
itle"
             android:layout_centerHorizontal="true"
="30dp" /></RelativeLayout>MainActivity.java:-package com.example.explicitintent;imp
ort android.content.Intent;import android.os.Bundle;import android.view.View;import
android.widget.Button;import androidx.appcompat.app.AppCompatActivity;public class M
ainActivity extends AppCompatActivity {
                                           @Override
                                                        protected void onCreate(Bund
le savedInstanceState) {
                                super.onCreate(savedInstanceState);
tView(R.layout.activity_main);
                                      Button buttonNavigate = findViewById(R.id.butt
                     buttonNavigate.setOnClickListener(new View.OnClickListener() {
on_navigate);
@Override
                     public void onClick(View v) {
                                                                  // Create an expli
cit intent to start the SecondActivity
                                                      Intent intent = new Intent(Mai
nActivity.this, SecondActivity.class);
                                                      startActivity(intent);
                }}SecondActivity.java:-package com.example.explicitintent;import and
roid.content.Intent;import android.os.Bundle;import android.view.View;import androi
d.widget.Button;import androidx.appcompat.app.AppCompatActivity;public class SecondA
ctivity extends AppCompatActivity {
                                       @Override
                                                    protected void onCreate(Bundle s
                            super.onCreate(savedInstanceState);
avedInstanceState) {
                                                                       setContentVie
w(R.layout.activity_second);
                                    setTitle("Second Activity");
                                                                        Button butto
nBack = findViewById(R.id.button_back);
                                               buttonBack.setOnClickListener(new Vie
w.OnClickListener() {
                                 @Override
                                                      public void onClick(View v) {
// Finish the current activity and return to the main activity
                                                                              finish
();
               }
                        });
                               }}Output:-
```

In [83]: for i in range(len(document.paragraphs)):
 print("The content of the paragraph"+str(i)+" is:"+document.paragraphs[i].text+

```
The content of the paragraph0 is:Exercise: 6
The content of the paragraph1 is:Create an android application using Explicit Inten
The content of the paragraph2 is:
The content of the paragraph3 is:Right-click on the java folder in the project struc
ture.
The content of the paragraph4 is:Select New > Activity > Empty Activity.
The content of the paragraph5 is: Name the new activity (e.g., SecondActivity).
The content of the paragraph6 is:Click "Finish."
The content of the paragraph7 is:activity_main.xml:-
The content of the paragraph8 is:<?xml version="1.0" encoding="utf-8"?>
The content of the paragraph9 is:<RelativeLayout xmlns:android="http://schemas.andro
id.com/apk/res/android"
The content of the paragraph10 is:
                                      android:layout_width="match_parent"
The content of the paragraph11 is:
                                      android:layout height="match parent">
The content of the paragraph12 is:
The content of the paragraph13 is:
                                      <Button
The content of the paragraph14 is:
                                          android:id="@+id/button navigate"
The content of the paragraph15 is:
                                          android:layout width="wrap content"
The content of the paragraph16 is:
                                          android:layout_height="wrap_content"
The content of the paragraph17 is:
                                          android:text="Go to Second Activity"
The content of the paragraph18 is:
                                          android:layout_centerInParent="true"/>
The content of the paragraph19 is:</RelativeLayout>
The content of the paragraph20 is:activity second.xml:-
The content of the paragraph21 is:<?xml version="1.0" encoding="utf-8"?>
The content of the paragraph22 is:<RelativeLayout xmlns:android="http://schemas.andr
oid.com/apk/res/android"
The content of the paragraph23 is:
                                      android:layout_width="match_parent"
                                      android:layout height="match parent">
The content of the paragraph24 is:
The content of the paragraph25 is:
```

```
The content of the paragraph26 is:
                                      <TextView
The content of the paragraph27 is:
                                          android:id="@+id/text welcome"
The content of the paragraph28 is:
                                          android:layout_width="wrap_content"
The content of the paragraph29 is:
                                          android:layout height="wrap content"
                                          android:text="Welcome to the Second Activi
The content of the paragraph30 is:
ty!"
The content of the paragraph31 is:
                                          android:textSize="24sp"
The content of the paragraph32 is:
                                          android:layout centerHorizontal="true"
The content of the paragraph33 is:
                                          android:layout marginTop="50dp" />
The content of the paragraph34 is:
The content of the paragraph35 is:
                                      <TextView
The content of the paragraph36 is:
                                          android:id="@+id/text_subtitle"
The content of the paragraph37 is:
                                          android:layout_width="wrap_content"
The content of the paragraph38 is:
                                          android:layout height="wrap content"
The content of the paragraph39 is:
                                          android:text="Here you can add more inform
ation."
                                          android:textSize="16sp"
The content of the paragraph40 is:
The content of the paragraph41 is:
                                          android:layout_below="@id/text_welcome"
The content of the paragraph42 is:
                                          android:layout centerHorizontal="true"
The content of the paragraph43 is:
                                          android:layout marginTop="20dp" />
The content of the paragraph44 is:
The content of the paragraph45 is:
                                      <Button
The content of the paragraph46 is:
                                          android:id="@+id/button_back"
                                          android:layout_width="wrap_content"
The content of the paragraph47 is:
The content of the paragraph48 is:
                                          android:layout height="wrap content"
The content of the paragraph49 is:
                                          android:text="Go Back"
                                          android:layout_below="@id/text_subtitle"
The content of the paragraph50 is:
The content of the paragraph51 is:
                                          android:layout centerHorizontal="true"
The content of the paragraph52 is:
                                          android:layout_marginTop="30dp" />
```

```
The content of the paragraph53 is:</RelativeLayout>
The content of the paragraph54 is:MainActivity.java:-
The content of the paragraph55 is:package com.example.explicitintent;
The content of the paragraph56 is:import android.content.Intent;
The content of the paragraph57 is:import android.os.Bundle;
The content of the paragraph58 is:import android.view.View;
The content of the paragraph59 is:import android.widget.Button;
The content of the paragraph60 is:import androidx.appcompat.app.AppCompatActivity;
The content of the paragraph61 is:
The content of the paragraph62 is:public class MainActivity extends AppCompatActivit
у {
The content of the paragraph63 is:
                                     @Override
The content of the paragraph64 is: protected void onCreate(Bundle savedInstanceSt
ate) {
                                         super.onCreate(savedInstanceState);
The content of the paragraph65 is:
The content of the paragraph66 is:
                                         setContentView(R.layout.activity_main);
The content of the paragraph67 is:
                                         Button buttonNavigate = findViewById(R.id.
The content of the paragraph68 is:
button_navigate);
The content of the paragraph69 is: buttonNavigate.setOnClickListener(new Vie
w.OnClickListener() {
The content of the paragraph70 is:
                                             @Override
The content of the paragraph71 is:
                                            public void onClick(View v) {
The content of the paragraph72 is:
                                                 // Create an explicit intent to st
art the SecondActivity
The content of the paragraph73 is:
                                                 Intent intent = new Intent(MainAct
ivity.this, SecondActivity.class);
The content of the paragraph74 is:
                                                 startActivity(intent);
The content of the paragraph75 is:
                                             }
The content of the paragraph76 is: });
The content of the paragraph77 is:
                                     }
```

```
The content of the paragraph78 is:}
The content of the paragraph79 is:SecondActivity.java:-
The content of the paragraph80 is:package com.example.explicitintent;
The content of the paragraph81 is:
The content of the paragraph82 is:import android.content.Intent;
The content of the paragraph83 is:import android.os.Bundle;
The content of the paragraph84 is:import android.view.View;
The content of the paragraph85 is:import android.widget.Button;
The content of the paragraph86 is:import androidx.appcompat.app.AppCompatActivity;
The content of the paragraph87 is:
The content of the paragraph88 is:public class SecondActivity extends AppCompatActiv
ity {
The content of the paragraph89 is:
The content of the paragraph90 is:
                                      @Override
The content of the paragraph91 is:
                                      protected void onCreate(Bundle savedInstanceSt
ate) {
The content of the paragraph92 is:
                                          super.onCreate(savedInstanceState);
The content of the paragraph93 is:
                                          setContentView(R.layout.activity_second);
The content of the paragraph94 is:
                                          setTitle("Second Activity");
The content of the paragraph95 is:
The content of the paragraph96 is:
                                          Button buttonBack = findViewById(R.id.butt
on_back);
The content of the paragraph97 is:
                                          buttonBack.setOnClickListener(new View.OnC
lickListener() {
The content of the paragraph98 is:
                                              @Override
                                              public void onClick(View v) {
The content of the paragraph99 is:
The content of the paragraph100 is:
                                                   // Finish the current activity an
d return to the main activity
The content of the paragraph101 is:
                                                   finish();
The content of the paragraph102 is:
                                               }
The content of the paragraph103 is:
                                           });
```

```
The content of the paragraph104 is: }

The content of the paragraph105 is:}

The content of the paragraph106 is:Output:-

The content of the paragraph107 is:
```

Collecting data from HTML

```
In [86]: !pip install bs4
        Collecting bs4
          Downloading bs4-0.0.2-py2.py3-none-any.whl.metadata (411 bytes)
        Requirement already satisfied: beautifulsoup4 in c:\users\vaish\anaconda3\lib\site-p
        ackages (from bs4) (4.12.3)
        Requirement already satisfied: soupsieve>1.2 in c:\users\vaish\anaconda3\lib\site-pa
        ckages (from beautifulsoup4->bs4) (2.5)
        Downloading bs4-0.0.2-py2.py3-none-any.whl (1.2 kB)
        Installing collected packages: bs4
        Successfully installed bs4-0.0.2
In [89]: import urllib.request as urllib2
         from bs4 import BeautifulSoup
In [91]: response = urllib2.urlopen('https://en.wikipedia.org/wiki/Natural_language_processi
         html_doc = response.read()
In [95]: soup = BeautifulSoup(html_doc, 'html.parser')
         strhtm = soup.prettify()
         print (strhtm[:5000])
```

```
<!DOCTYPE html>
```

<html class="client-nojs vector-feature-language-in-header-enabled vector-feature-la
nguage-in-main-page-header-disabled vector-feature-page-tools-pinned-disabled vector
-feature-toc-pinned-clientpref-1 vector-feature-main-menu-pinned-disabled vector-fea
ture-limited-width-clientpref-1 vector-feature-limited-width-content-enabled vectorfeature-custom-font-size-clientpref-1 vector-feature-appearance-pinned-clientpref-1
vector-feature-night-mode-enabled skin-theme-clientpref-day vector-sticky-header-ena
bled vector-toc-available" dir="ltr" lang="en">

```
<head>
  <meta charset="utf-8"/>
  <title>
   Natural language processing - Wikipedia
  </title>
  <script>
```

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