ARTIFICIAL INTELLIGENCE PROJECT

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD

OF THE DEGREE OF

BACHELOR OF TECHNOLOGY

(Computer Science Engineering)

Batch 2021- 2025

SUBMITTED BY:

NAME: PAHULPREET KAUR

UNIVERSITY ROLL NO.:2104150

JASHANDEEP KAUR

UNIVERSITY ROLL NO:-2104123

INPREET KOUR

UNIVERSITY ROLL NO:-2104119

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

GURU NANAK DEV ENGINEERING COLLEGE LUDHIANA

Virtual Assistant Using Python

A virtual assistant, also called an AI assistant or digital assistant, is an application program that understands natural language voice commands and completes tasks for the user.

Modules Used:

- **pyttsx3:** pyttsx is a cross-platform text to speech library which is platform independent. The major advantage of using this library for text-to-speech conversion is that it works offline.
- To install this module, we typed the below command in the terminal. **Pip install pyttsx3**

- **SpeechRecognition:** It allow us to convert audio into text for further processing.
- To install this module, we typed the below command in the terminal. **Pip install SpeechRecognition**

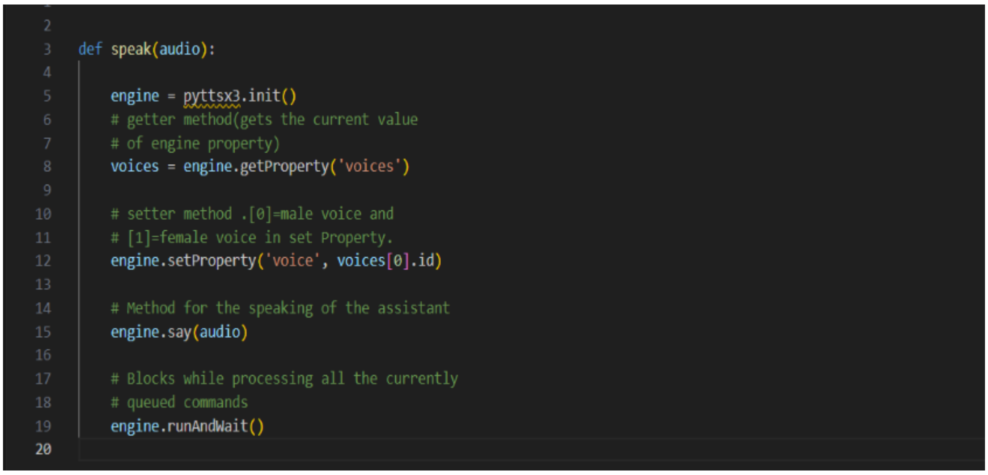
- **webbrowser:** It provides a high-level interface which allows displaying Web-based documents to users.
- To install this module, we typed the below command in the terminal. **Pip install webbrowser**

- **Wikipedia:** It is used to fetch a variety of information from the Wikipedia website.
- To install this module, we typed the below command in the terminal. **Pip install Wikipedia**

Methods used for Virtual Assistant

1)Speak Method:

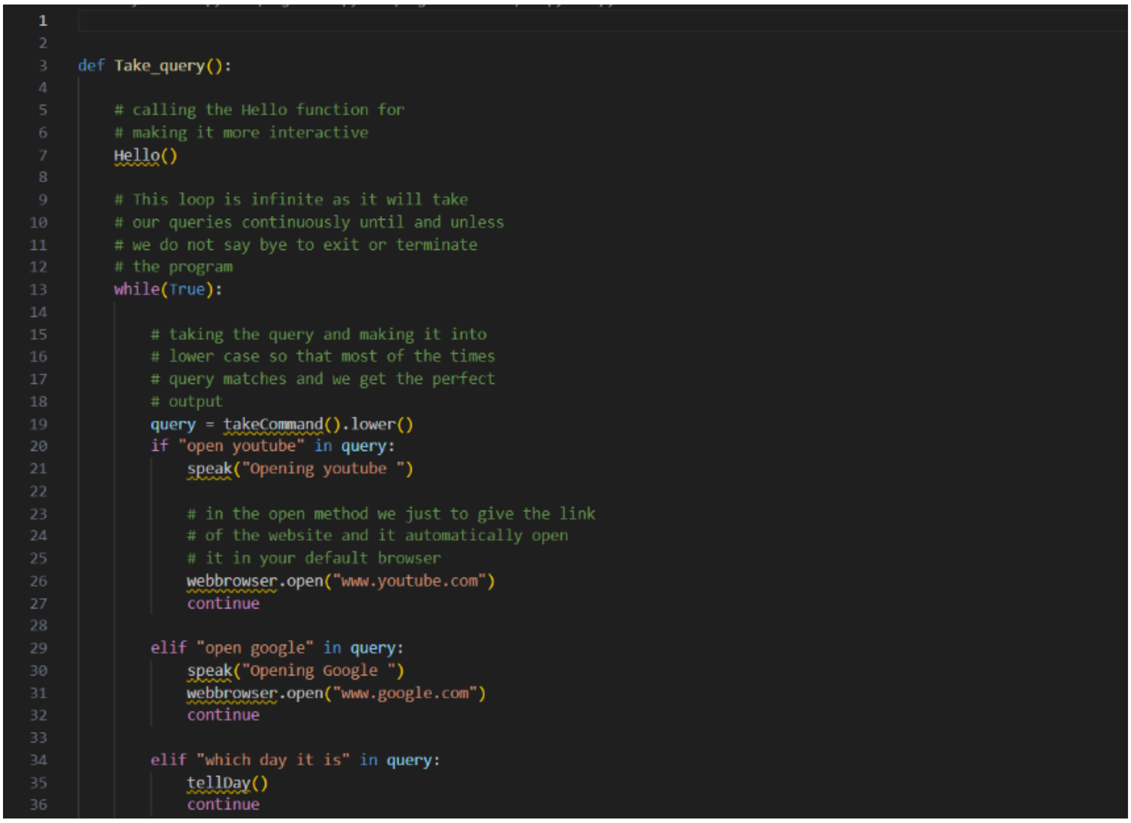
Speak Method will help us in taking the voice from the machine. Here is the code explanation of Speak Method



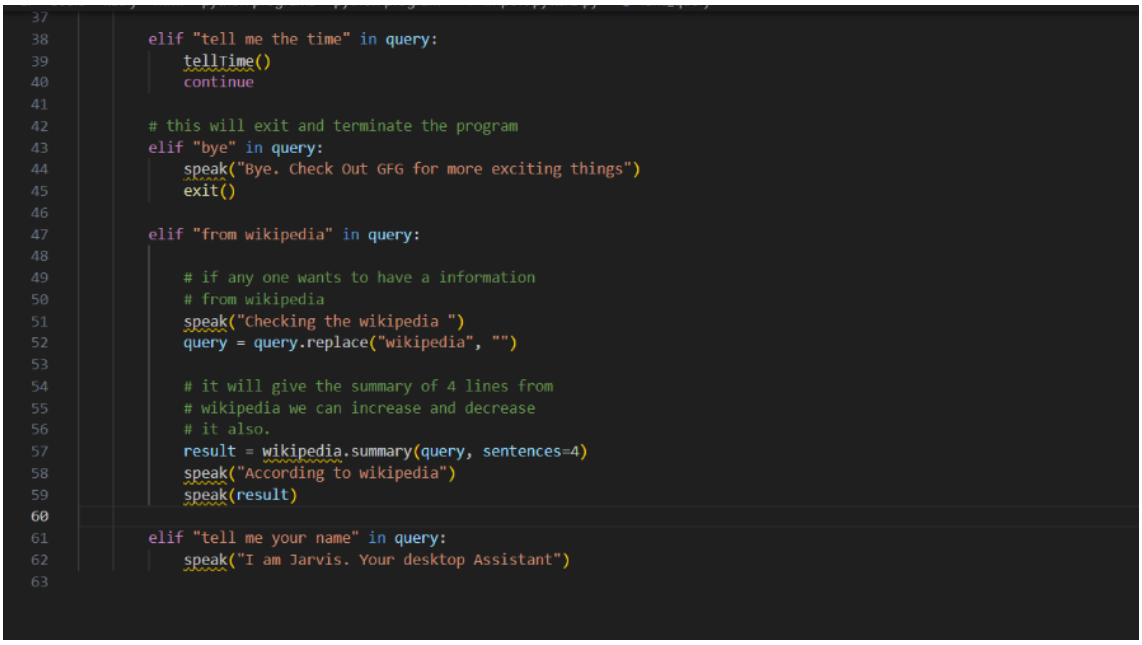
```python

def speak(audio):

    engine = pyttsx3.init()
    # getter method(gets the current value
    # of engine property)
    voices = engine.getProperty('voices')

    # setter method .[0]=male voice and
    # [1]=female voice in set Property.
    engine.setProperty('voice', voices[0].id)

    # Method for the speaking of the assistant
    engine.say(audio)

    # Blocks while processing all the currently
    # queued commands
    engine.runAndWait()
```

2) Take query method:

This method will check for the condition. If the condition is true it will return output. We can add any number if conditions for it and if the condition satisfy we will get the desired output.



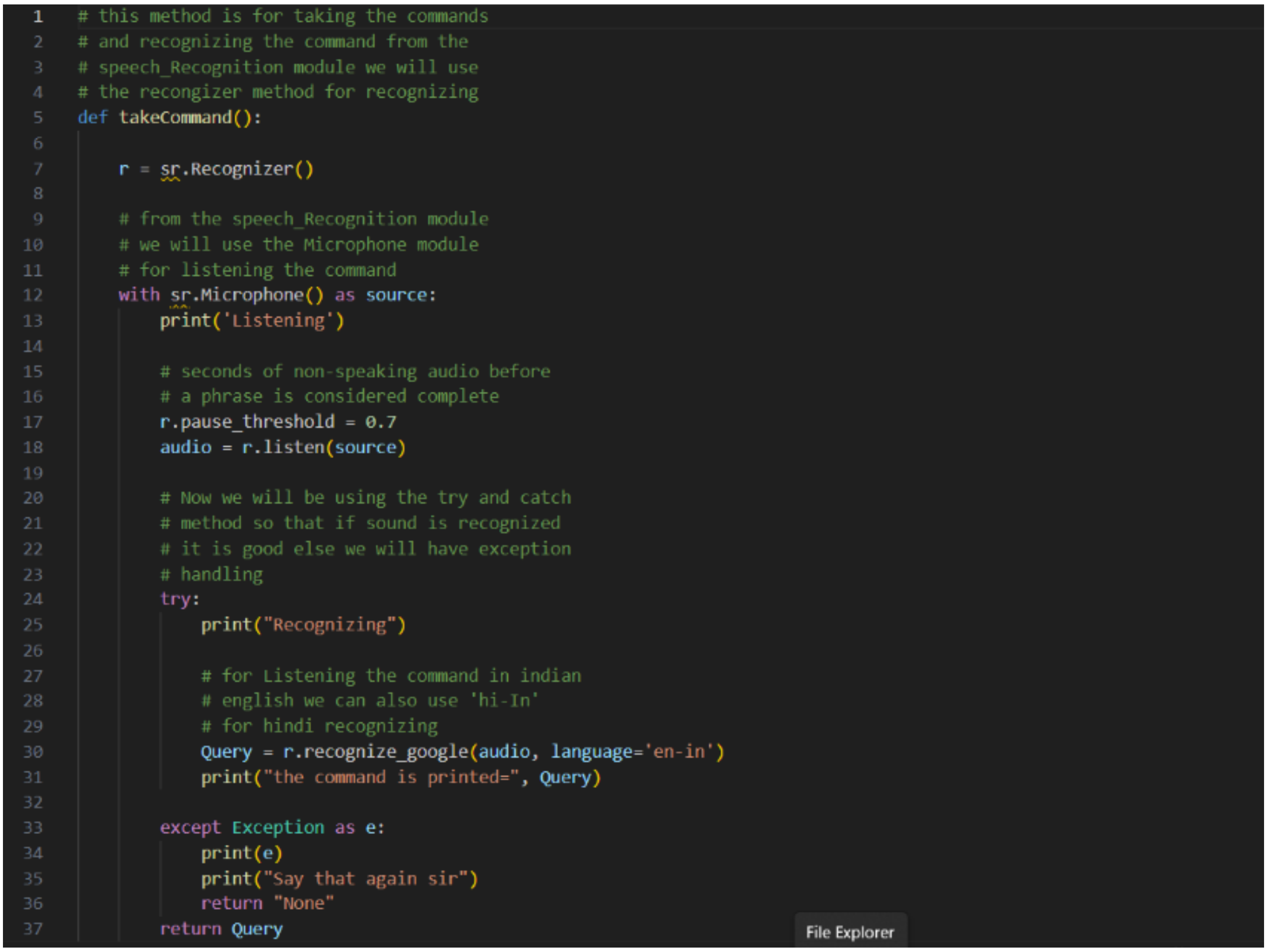
```python

def Take_query():

    # calling the Hello function for
    # making it more interactive
    Hello()

    # This loop is infinite as it will take
    # our queries continuously until and unless
    # we do not say bye to exit or terminate
    # the program
    while(True):

        # taking the query and making it into
        # lower case so that most of the times
        # query matches and we get the perfect
        # output
        query = takeCommand().lower()
        if "open youtube" in query:
            speak("Opening youtube ")

            # in the open method we just to give the link
            # of the website and it automatically open
            # it in your default browser
            webbrowser.open("www.youtube.com")
            continue

        elif "open google" in query:
            speak("Opening Google ")
            webbrowser.open("www.google.com")
            continue

        elif "which day it is" in query:
            tellDay()
            continue
```



```
        elif "tell me the time" in query:
            tellTime()
            continue

        # this will exit and terminate the program
        elif "bye" in query:
            speak("Bye. Check Out GFG for more exciting things")
            exit()

        elif "from wikipedia" in query:

            # if any one wants to have a information
            # from wikipedia
            speak("Checking the wikipedia ")
            query = query.replace("wikipedia", "")

            # it will give the summary of 4 lines from
            # wikipedia we can increase and decrease
            # it also.
            result = wikipedia.summary(query, sentences=4)
            speak("According to wikipedia")
            speak(result)

        elif "tell me your name" in query:
            speak("I am Jarvis. Your desktop Assistant")
```

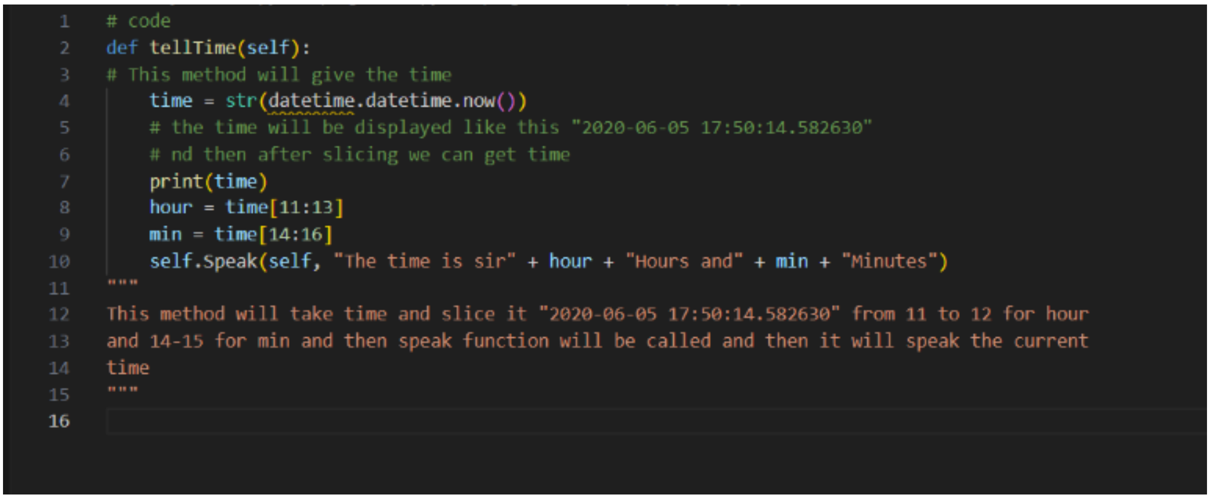
3) takeCommand method:

This method is for taking the commands and recognizing the command from the speech_Recognition module



```
# this method is for taking the commands
# and recognizing the command from the
# speech_Recognition module we will use
# the recongizer method for recognizing
def takeCommand():

    r = sr.Recognizer()

    # from the speech_Recognition module
    # we will use the Microphone module
    # for listening the command
    with sr.Microphone() as source:
        print('Listening')

        # seconds of non-speaking audio before
        # a phrase is considered complete
        r.pause_threshold = 0.7
        audio = r.listen(source)

        # Now we will be using the try and catch
        # method so that if sound is recognized
        # it is good else we will have exception
        # handling
        try:
            print("Recognizing")

            # for Listening the command in indian
            # english we can also use 'hi-In'
            # for hindi recognizing
            Query = r.recognize_google(audio, language='en-in')
            print("the command is printed=", Query)

        except Exception as e:
            print(e)
            print("Say that again sir")
            return "None"
        return Query
```

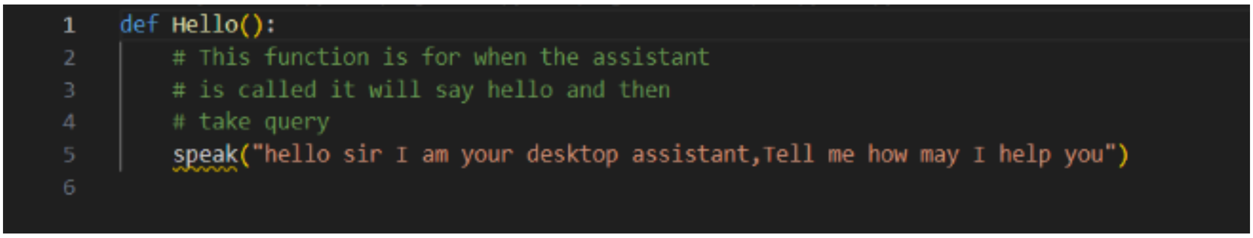
4) tellTime method:



```
# code
def tellTime(self):
# This method will give the time
    time = str(datetime.datetime.now())
    # the time will be displayed like this "2020-06-05 17:50:14.582630"
    # nd then after slicing we can get time
    print(time)
    hour = time[11:13]
    min = time[14:16]
    self.Speak(self, "The time is sir" + hour + "Hours and" + min + "Minutes")
"""
This method will take time and slice it "2020-06-05 17:50:14.582630" from 11 to 12 for hour
and 14-15 for min and then speak function will be called and then it will speak the current
time
"""
```

5) Hello method:

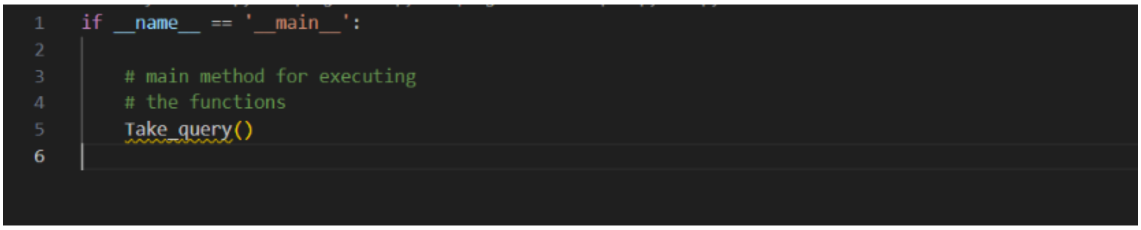
This is just used to greet the user with a hello message.



```
def Hello():
    # This function is for when the assistant
    # is called it will say hello and then
    # take query
    speak("hello sir I am your desktop assistant,Tell me how may I help you")
```

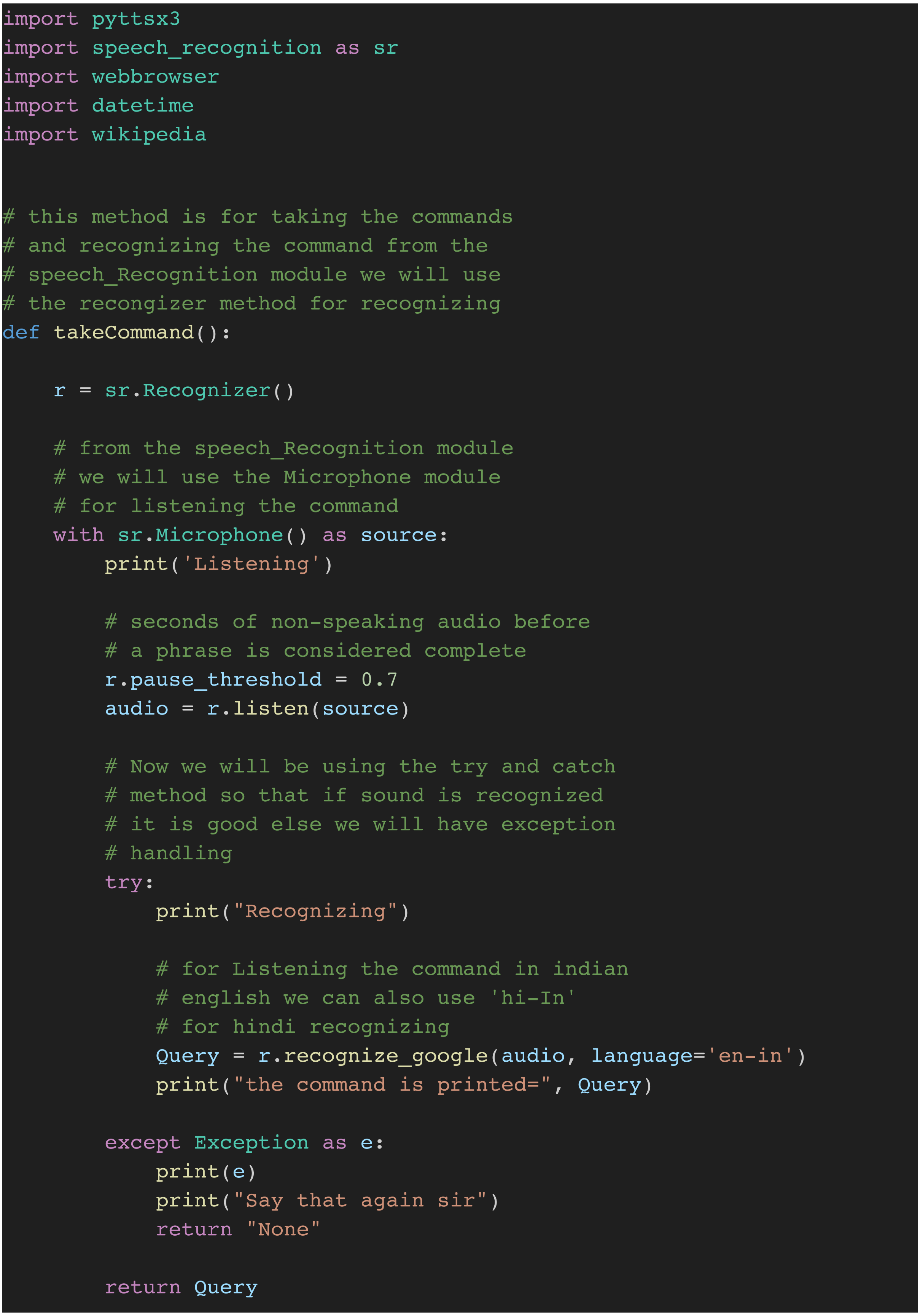
5) Main method:

Main method is the method where all the files get executed so we will call the Take_query method here so that it can recognize and tell or give us the desired output.

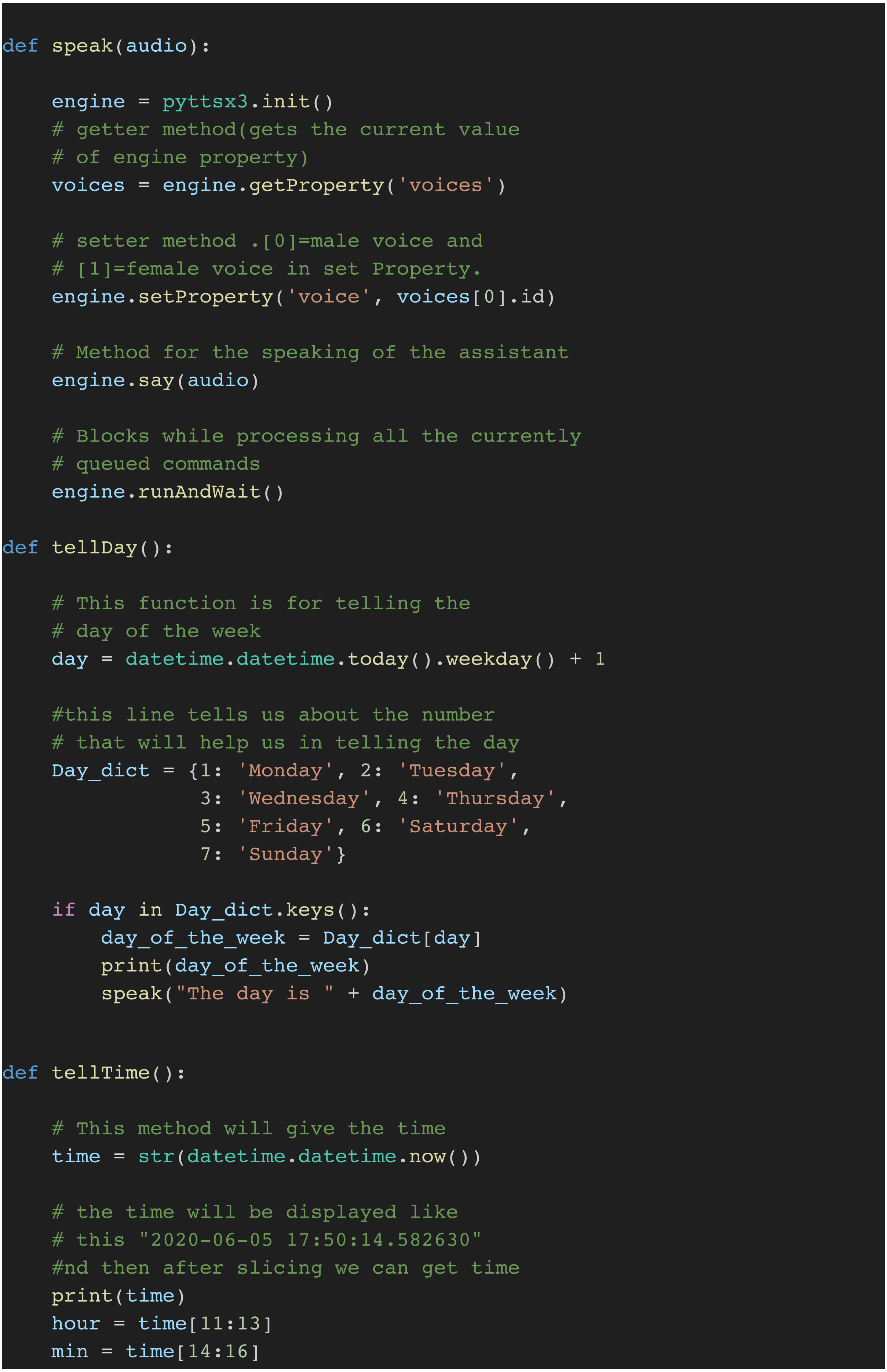


```
if __name__ == '__main__':

    # main method for executing
    # the functions
    Take_query()
```

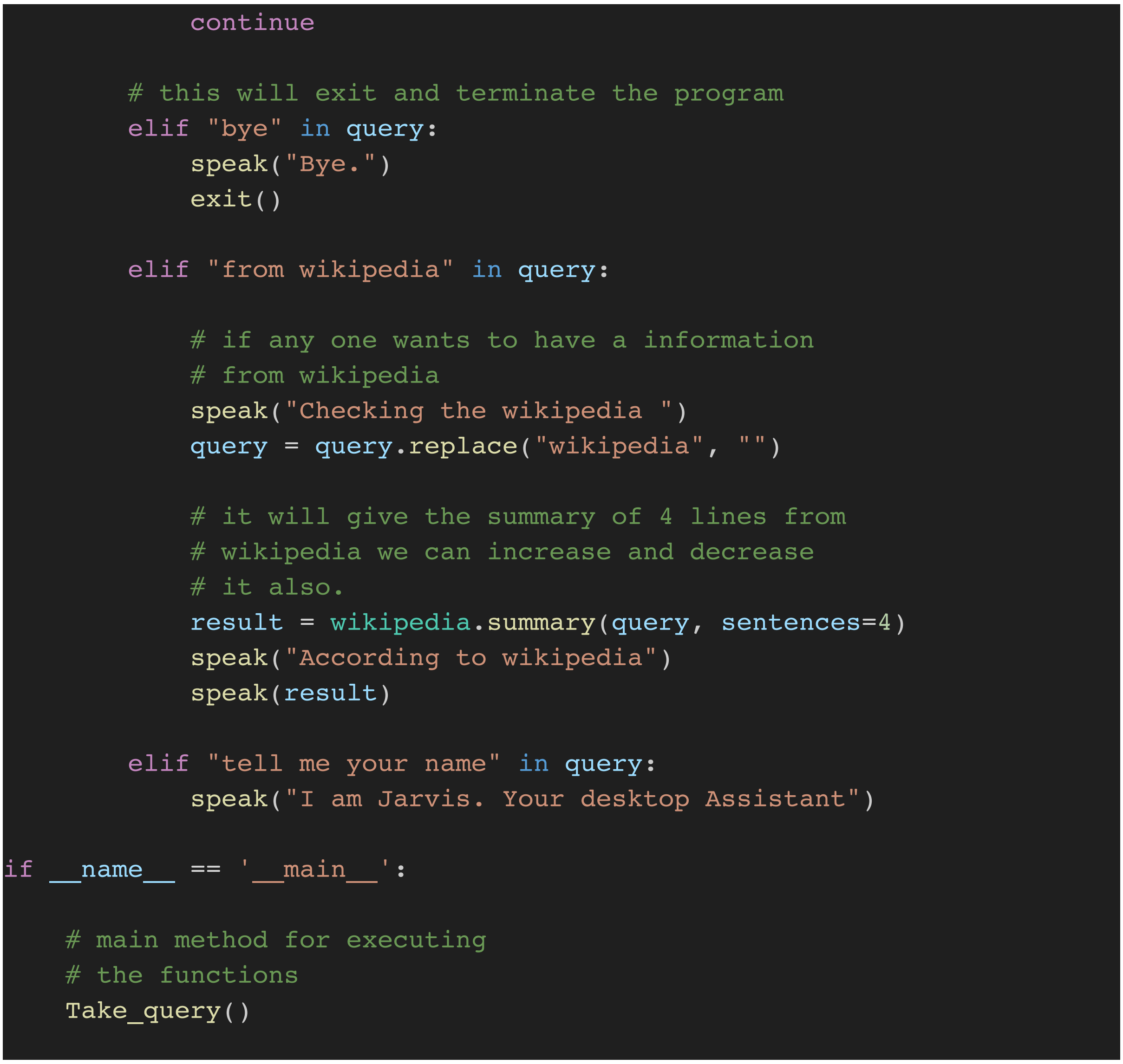
Complete Code of Virtual Assistant:



```
import pyttsx3
import speech_recognition as sr
import webbrowser
import datetime
import wikipedia


# this method is for taking the commands
# and recognizing the command from the
# speech_Recognition module we will use
# the recongizer method for recognizing
def takeCommand():

    r = sr.Recognizer()

    # from the speech_Recognition module
    # we will use the Microphone module
    # for listening the command
    with sr.Microphone() as source:
        print('Listening')

        # seconds of non-speaking audio before
        # a phrase is considered complete
        r.pause_threshold = 0.7
        audio = r.listen(source)

        # Now we will be using the try and catch
        # method so that if sound is recognized
        # it is good else we will have exception
        # handling
        try:
            print("Recognizing")

            # for Listening the command in indian
            # english we can also use 'hi-In'
            # for hindi recognizing
            Query = r.recognize_google(audio, language='en-in')
            print("the command is printed=", Query)

        except Exception as e:
            print(e)
            print("Say that again sir")
            return "None"

        return Query
```



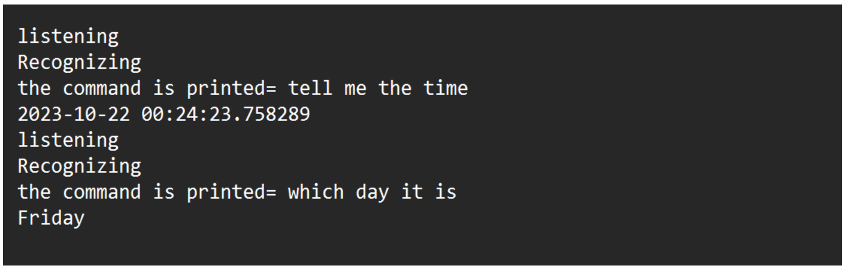
```
def speak(audio):

    engine = pyttsx3.init()
    # getter method(gets the current value
    # of engine property)
    voices = engine.getProperty('voices')

    # setter method .[0]=male voice and
    # [1]=female voice in set Property.
    engine.setProperty('voice', voices[0].id)

    # Method for the speaking of the assistant
    engine.say(audio)

    # Blocks while processing all the currently
    # queued commands
    engine.runAndWait()

def tellDay():

    # This function is for telling the
    # day of the week
    day = datetime.datetime.today().weekday() + 1

    #this line tells us about the number
    # that will help us in telling the day
    Day_dict = {1: 'Monday', 2: 'Tuesday',
                3: 'Wednesday', 4: 'Thursday',
                5: 'Friday', 6: 'Saturday',
                7: 'Sunday'}

    if day in Day_dict.keys():
        day_of_the_week = Day_dict[day]
        print(day_of_the_week)
        speak("The day is " + day_of_the_week)


def tellTime():

    # This method will give the time
    time = str(datetime.datetime.now())

    # the time will be displayed like
    # this "2020-06-05 17:50:14.582630"
    #nd then after slicing we can get time
    print(time)
    hour = time[11:13]
    min = time[14:16]
    speak("The time is sir" + hour + "Hours and" + min + "Minutes")

def Hello():

    # This function is for when the assistant
    # is called it will say hello and then
    # take query
    speak("hello sir I am your desktop assistant,Tell me how may I help
you")



def Take_query():

    # calling the Hello function for
    # making it more interactive
    Hello()

    # This loop is infinite as it will take
    # our queries continuously until and unless
    # we do not say bye to exit or terminate
    # the program
    while(True):

        # taking the query and making it into
        # lower case so that most of the times
        # query matches and we get the perfect
        # output
        query = takeCommand().lower()
        if "open youtube" in query:
            speak("Opening youtube ")

            # in the open method we just to give the link
            # of the website and it automatically open
            # it in your default browser
            webbrowser.open("www.youtube.com")
            continue

        elif "open google" in query:
            speak("Opening Google ")
            webbrowser.open("www.google.com")
            continue

        elif "which day it is" in query:
            tellDay()
            continue

        elif "tell me the time" in query:
            tellTime()
```



```python
            continue

        # this will exit and terminate the program
        elif "bye" in query:
            speak("Bye.")
            exit()

        elif "from wikipedia" in query:

            # if any one wants to have a information
            # from wikipedia
            speak("Checking the wikipedia ")
            query = query.replace("wikipedia", "")

            # it will give the summary of 4 lines from
            # wikipedia we can increase and decrease
            # it also.
            result = wikipedia.summary(query, sentences=4)
            speak("According to wikipedia")
            speak(result)

        elif "tell me your name" in query:
            speak("I am Jarvis. Your desktop Assistant")

if __name__ == '__main__':

    # main method for executing
    # the functions
    Take_query()
```

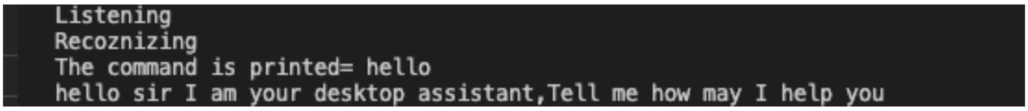
OUTPUTS:

1. Output for the query tell me the time and which day it is:



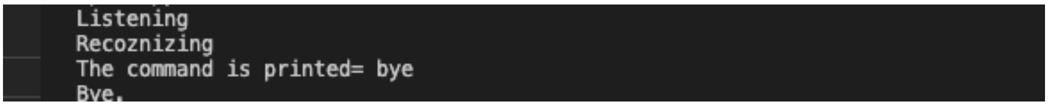
```
listening
Recognizing
the command is printed= tell me the time
2023-10-22 00:24:23.758289
listening
Recognizing
the command is printed= which day it is
Friday
```

2. Output for the query hello:



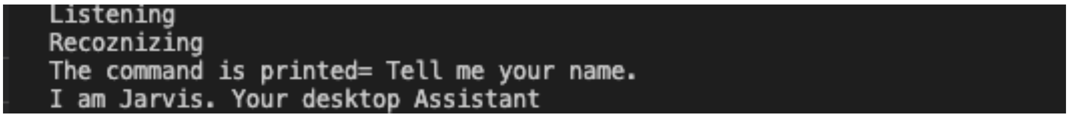
```
Listening
Recoznizing
The command is printed= hello
hello sir I am your desktop assistant,Tell me how may I help you
```

3.Output for the query bye:



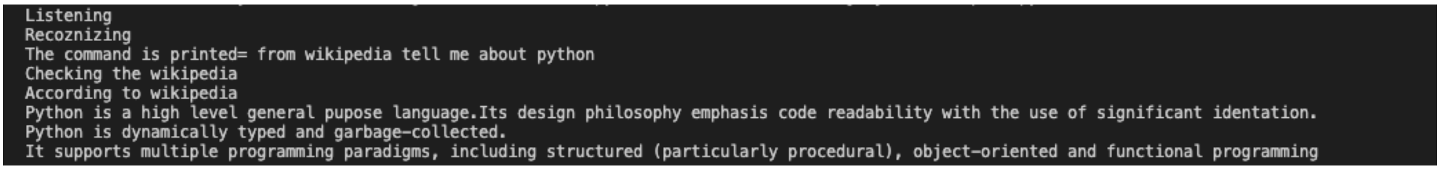
```
Listening
Recoznizing
The command is printed= bye
Bye.
```

4.Output for the query tell me your name:



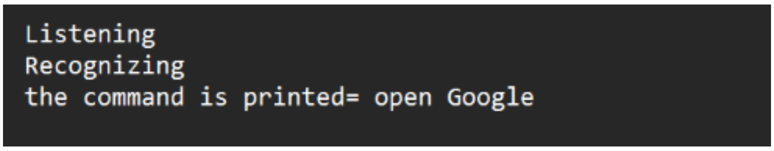
```
Listening
Recoznizing
The command is printed= Tell me your name.
I am Jarvis. Your desktop Assistant
```

5. Output for the query from wikipedia:

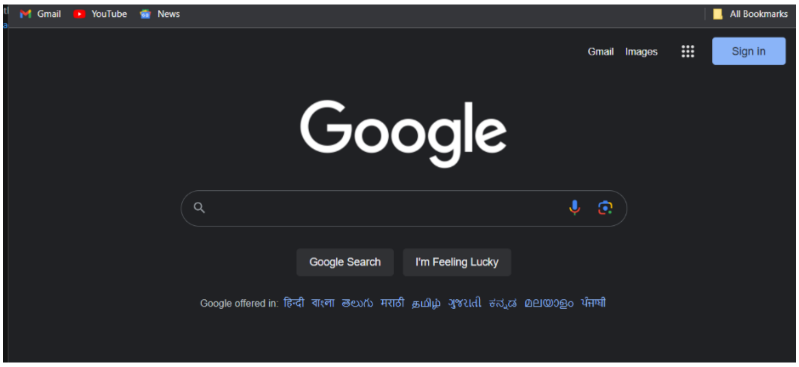


```
Listening
Recoznizing
The command is printed= from wikipedia tell me about python
Checking the wikipedia
According to wikipedia
Python is a high level general pupose language.Its design philosophy emphasis code readability with the use of significant identation.
Python is dynamically typed and garbage-collected.
It supports multiple programming paradigms, including structured (particularly procedural), object-oriented and functional programming
```

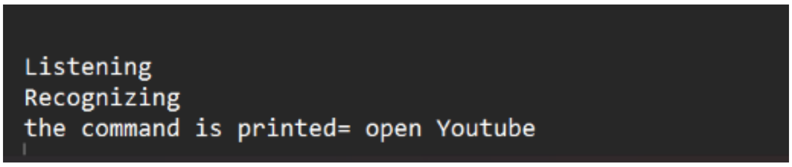
6. Output for the query open Google:



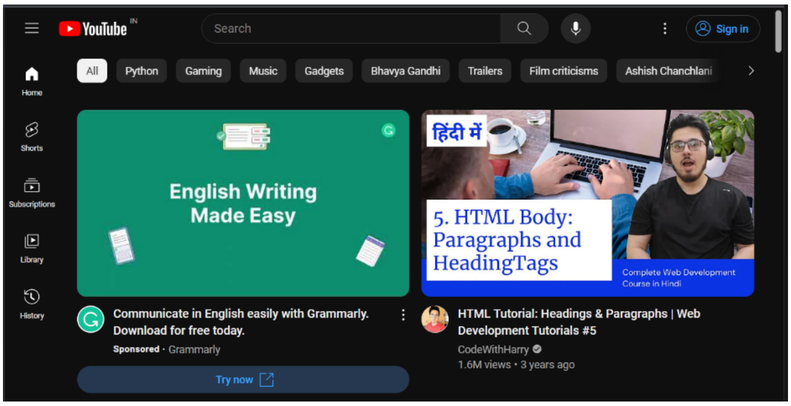
```
Listening
Recognizing
the command is printed= open Google
```



7. Output for query open Youtube:



```
Listening
Recognizing
the command is printed= open Youtube
```


YouTube IN
Search
Sign in
Home
Shorts
Subscriptions
Library
History
All
Python
Gaming
Music
Gadgets
Bhavya Gandhi
Trailers
Film criticisms
Ashish Chanchlani
English Writing Made Easy
Communicate in English easily with Grammarly. Download for free today.
Sponsored · Grammarly
Try now
हिंदी में
5. HTML Body: Paragraphs and HeadingTags
Complete Web Development Course in Hindi
HTML Tutorial: Headings & Paragraphs | Web Development Tutorials #5
CodeWithHarry
1.6M views • 3 years ago