A Project/Dissertation Report on

AI-Based Desktop Voice Assistant

Submitted in partial fulfillment of the

requirement for the award of the degree of

B.Tech(CSE)

GALGOTIAS
UNIVERSITY
(Established under Galgotias University Uttar Pradesh Act No. 14 of 2011)

Under The Supervision
of Dr. Runumi Devi :
Assistant Professor

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INDIA
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Abstract:-

A virtual assistant, also called an AI assistant or digital assistant, is a program that understands natural language voice commands and completes tasks for the user. Voice assistants are software agents that can interpret human speech and respond via synthesized voices. As the available voice assistants are mainly for smart devices, this study focuses on developing one for the desktop device.

The main task of a voice assistant is to minimize the use of input devices like keyboard, mouse, touch pens, etc. This will reduce both the hardware cost and space taken by it. The presently available voice assistants such as Alexa, Google Assistant, and Siri voice are capable of opening websites like Google, Youtube, etc., in a web browser. They are also capable of predicting time, fetching news, searching data from the web, capable of answering geographical and computational questions, predicting weather in different cities, etc. Unlike the presently available voice assistant, the proposed work is going to design a desktop based voice assistant that can not only perform the aforementioned task but also add capabilities such as the opening of a code editor or IDE with a single voice command, sending mail. This will benefit the programmers to open the code editor directly by giving commands to the assistant rather than going to the specific folder and opening the files where they are on the PC and send mail to anyone without opening Gmail.

INTRODUCTION

In the 21st century, human communication has been replaced by ever-changing phenomena. One of the main reasons for this change is performance. There is a major technological change rather than an improvement. In today’s world, we train our machine to do its own work or think like people using technologies like Learning Machines, Neural Networks, etc. Now in the modern era, we can talk to our machines with the help of real helpers. There are companies like Google, Apple, Microsoft, etc. with helpers like Google Now, Siri, Cortana, etc. Helping their users control their device by providing voice input. These types of practical assistants are very helpful in aging, for the blind and physically challenged, children, etc. by making sure that machine communication is not a challenge for people. Even blind people who could not see a machine can communicate with it using only their voice. Some of the basic functions supported by most visible assistants are:

->Checking weather updates

->Predicting Time

->Search on Wikipedia

->Fetching News

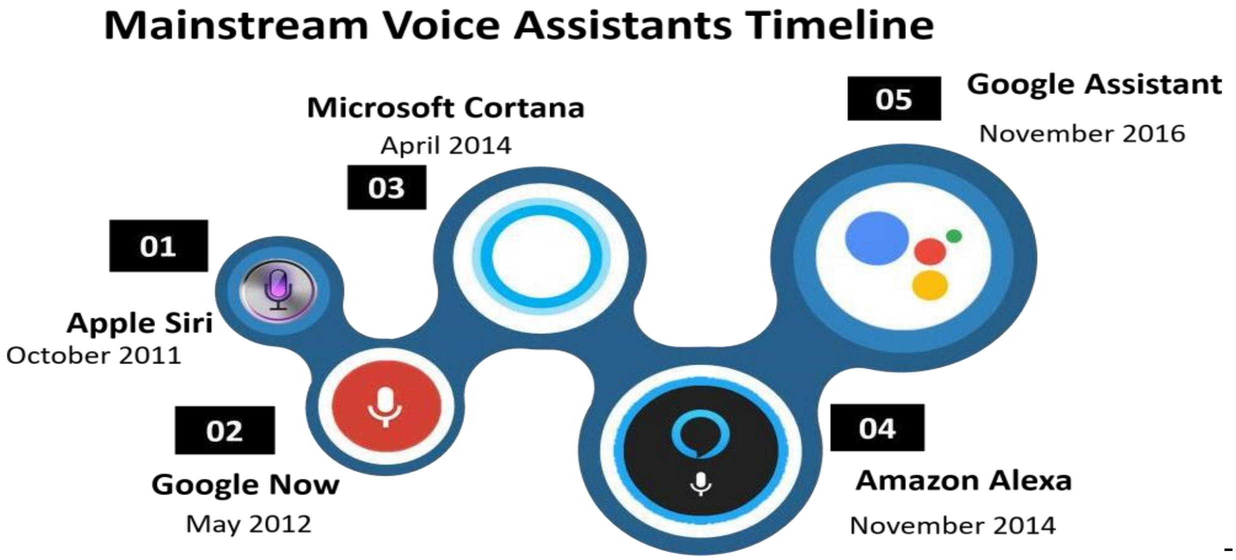
->Stream music

->Open applications

->Answering Questions

The voice assistant we have developed is based on the desktop using python modules and libraries. This helper is the only basic version that can perform all the basic functions mentioned above.

With the help of voice assistants, there will be no need to write long codes to do the job, the program will do it for us.



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>Timeline Of Main Voice Assistants

LITERATURE SURVEY

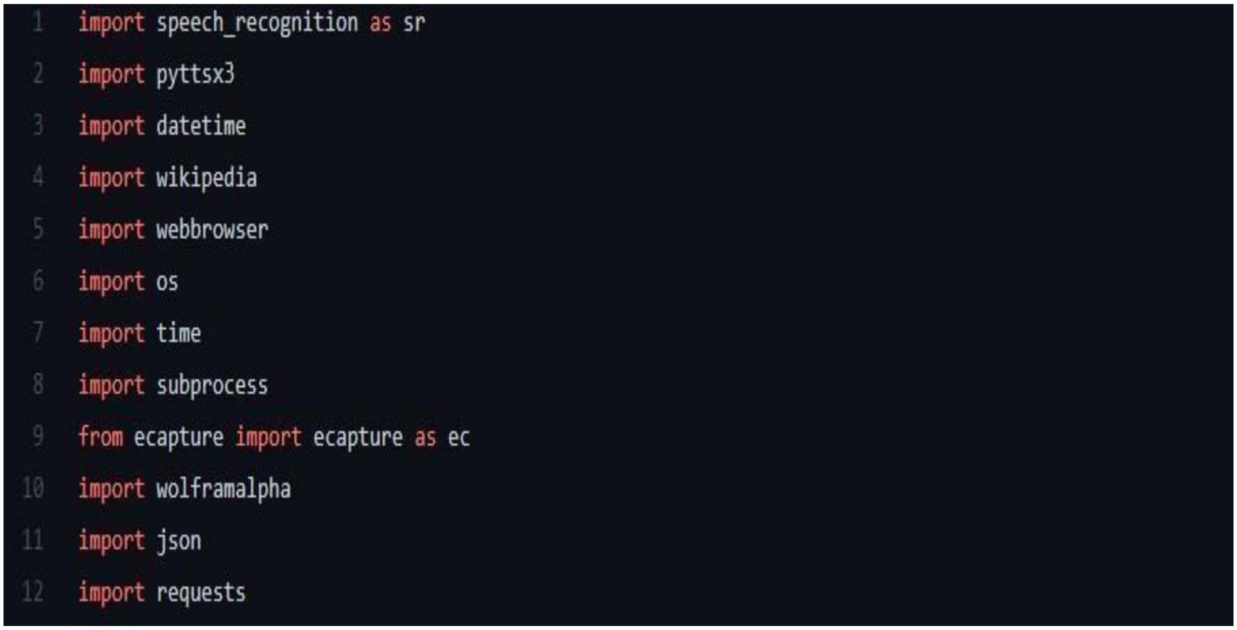
This field of real assistants with speech recognition has seen great progress or innovations. This is due to its demand on devices such as Smartwatches or exercise bands, speakers, bluetooth ears, mobile phones, laptop or desktop, television, etc. Almost all digital devices coming these days come with voice assistants that help control the device with speech recognition only. A new set of strategies is constantly being developed to improve the performance of automatic voice search. As the amount of data grows exponentially now known as Big Data the best way to improve the results of visual assistants is to include our assistants in machine learning and training our devices depending on their use.

Other major strategies equally important are Artificial Intelligence, Internet of Things, big data access and management, etc. By using voice assistants, we can make the task easier, just provide the input method of speaking and all the tasks will be done by it from turning your speech into text form to extract keywords from that text and make a query to give results to the user. Machine learning is just a subset of Artificial Intelligence. This has been one of the most important advances in technology.

Before AI we were the ones who developed the technology to do the job but now the machine itself is able to challenge new tasks and solve them without the need to involve people to change them. This has been helpful in everyday life. From cell phones to personal desktops to the hardware industry these assistants are desperately needed to perform tasks automatically and increase efficiency.

Figure: Voice Controlled Appliances Affecting Our Daily Life

SYSTEM ARCHITECTURE



```
import speech_recognition as sr
import pyttsx3
import datetime
import wikipedia
import webbrowser
import os
import time
import subprocess
from ecapture import ecapture as ec
import wolframalpha
import json
import requests
```

Fig: Modules Imported

>SPEECH RECOGNITION

The speech recognition module used the program is Google’s Speech Recognition API which is imported in python using the command “import speech_recognition as sr”. This module is used to recognize the voice which is given as input by the user. This is a free API that is provided and supported by Google. This is a very light API that helps in reducing the size of our application.

>TTS & STT

The voice which is given as input is first converted to text using the speech recognition module. The text is then processed to give the result of the query given by the user. The final step is the conversion of the result of the processed query to speech which is the final output. The most time consuming among the two is STT because the system first has to listen to the user and different users have different, some are easy to understand while some are not easily audible. This is the step upon which our total execution time depends. Once the speech is converted to text executing commands and giving the results back to the user is not a time consuming step.

IMPORTED MODULES

A.PYTTSX3

The pyttsx3 is an offline module that is used for text to speech conversion in Python and it is supported by both Python 2 & 3. The run and wait functionality is also in this module only. It determines how much time the system will wait for another input or in other words the time interval between inputs. This is a free module available in the python community which can be installed using the pip command just like other modules.

B. DATETIME

The DateTime module is imported to support the functionality of the date and time. For example, the user wants to know the current date and time or the user wants to schedule a task at a certain time. In short this module supports classes to manipulate date and time and perform operations according to it only. This is an essential module, especially in tasks where we want to keep a track of time. This module is very small in size and helps to control the size of our program. If the modules are too large or heavy then the system will lag and give slow responses.

C.WEBBROWSER

This module allows the system to display web-based information to users. For example, the user wants to open any website and he gives input as “Open Google”. The input is processed using the web browser module and the user gets a browser with google opened in it. The browser which will be used is the default set web browser.

D.WIKIPEDIA

Wikipedia is a library in python which it possible for the virtual assistant to process the queries regarding Wikipedia and display the results to users. This is an online library and needs an internet connection to fetch the results. The no. of lines that the user wants to get as a result can be set manually.

E. OS MODULE

OS Module provides an operating system dependent functionalities. If we want to perform operations on files like reading, writing, or manipulate paths, all these types of functionalities are available in an OS module. All the operations available raise an error "OSError" in case of any error like invalid names, paths, or arguments which may be incorrect or correct but just no accepted by the operating system.

F. SMTPLIB

Python has this module for in the standard library for working with emails & email servers. The SMTPLIB defines an object known as "SMTP client session object" which is used to send mails by the user. There are 3 steps involved - initialize, sendmail(), quit. When the optional parameters which are host and port, are provided connect method is called with these arguments during the first step which is initialization.

F. Wolfram Alpha

Wolfram Alpha is an API which can compute expert-level answers using Wolfram's algorithms, knowledgebase and AI technology. It is made possible by the Wolfram Language. This article tells how to create a simple assistant application in Python which can answer simple questions like the ones listed below.

G. JSON

JavaScript Object Notation (JSON) is a standard text-based format for representing structured data based on JavaScript object syntax. It is commonly used for transmitting data in web applications (e.g., sending some data from the server to the client, so it can be displayed on a web page, or vice versa)

H. REQUESTS

Requests will allow you to send HTTP/1.1 requests using Python. With it, you can add content like headers, form data, multipart files, and parameters via simple Python libraries. It also allows you to access the response data of Python in the same way.

DESIGN

The overall design of our system consists of the following phases:

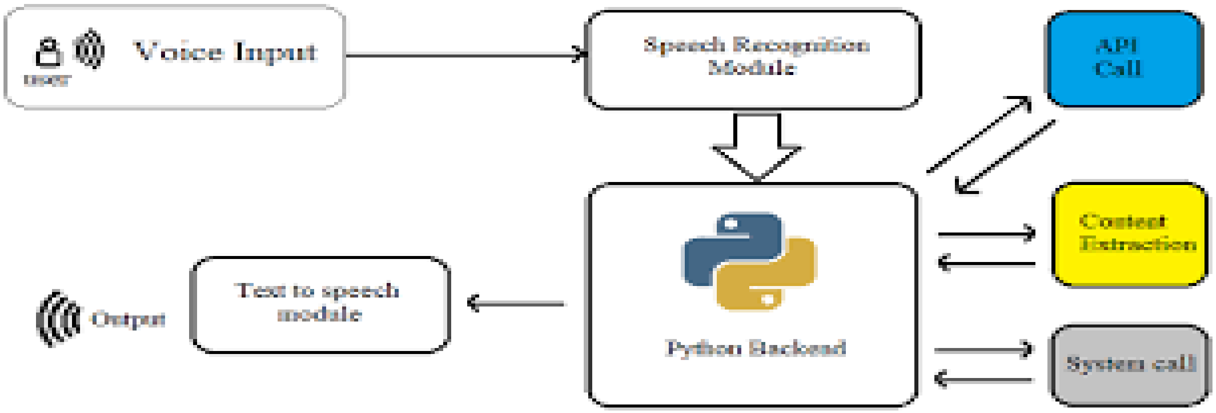
(a) Taking input from the user in the form of voice.

(b) Converting the speech into text to be processed by the assistant.

(c) The converted text is now processed to get the required results.

(d) The text contains one or two keywords that determine what query is to be executed. If the keyword doesn't match any of the queries in the code then the assistant asks the user to speak again.

(e) The result which is in the form of text is converted to speech again to give results to the user.



PROPOSED SYSTEM

The proposed system will have the following functionality:

(a) The system will keep listening for commands and the time for listening is variable which can be changed according to user requirements.

(b) If the system is not able to gather information from the user input it will keep asking again to repeat till the desired no. of times.

(c) The system can have both male and female voices according to user requirements.

(d) Features supported in the current version include playing music, emails, texts, search on Wikipedia, or opening system installed applications, opening anything on the web browser, etc.

(e) The system will keep listening for commands and the time for listening is variable which can be changed according to user requirements.

(f) If the system is not able to gather information from the user input it will keep asking again to repeat till the desired no. of times.

(g) The system can have both male and female voices according to user requirements

(h) The feature going to be added is opening of a code editor or IDE with a single voice command and sending mail to anyone without opening Gmail.

Program

```
import speech_recognition as sr

import pyttsx3

import datetime

import wikipedia

import webbrowser

import os

import time

import subprocess

from ecapture import ecapture as ec

import wolframalpha

import json

import requests
```

```
print('Loading your AI personal assistant -Yoru')


engine=pyttsx3.init('sapi5')
voices=engine.getProperty('voices')
engine.setProperty('voice','voices[0].id')



def speak(text):
    engine.say(text)
    engine.runAndWait()


def wishMe():
    hour=datetime.datetime.now().hour
    if hour>=0 and hour<12:
        speak("Hello,Good Morning")
        print("Hello,Good Morning")
    elif hour>=12 and hour<18:
        speak("Hello,Good Afternoon")
        print("Hello,Good Afternoon")
    else:
        speak("Hello,Good Evening")
        print("Hello,Good Evening")
```

```
def takeCommand():
    r=sr.Recognizer()
    with sr.Microphone() as source:
        print("Listening...")
        audio=r.listen(source)


        try:
            statement=r.recognize_google(audio,language='en-in')
            print(f"user said:{statement}\n")

         except Exception as e:
            speak("Pardon me, please say that again")
            return "None"
         return statement

speak("Loading your AI personal assistant - Yoru")
wishMe()


if __name__=='__main__':
    while True:

        speak("Tell me how can I help you now?")

        statement = takeCommand().lower()

        if statement==0:

            continue


        if "goodbye" in statement or "bye" in statement or "stop" in statement:

            speak('your personal assistant Yoru is shutting down,Goodbye and have a nice
day')

            print('your personal assistant Yoru is shutting down,Goodbye and have a nice
day')

            break




        if 'wikipedia' in statement:

            speak('Searching Wikipedia...')

            statement =statement.replace("wikipedia", "")

            results = wikipedia.summary(statement, sentences=3)

            speak("According to Wikipedia,I found this on web")

            print(results)

            speak(results)
```

```
elif 'open youtube' in statement:
    webbrowser.open_new_tab("https://www.youtube.com")
    speak("youtube is opening")
    time.sleep(5)

elif 'open google' in statement:
    webbrowser.open_new_tab("https://www.google.com")
    speak("Google chrome is opening ")
    time.sleep(5)

elif 'open gmail' in statement:
    webbrowser.open_new_tab("gmail.com")
    speak("Google Mail is opening")
    time.sleep(5)

elif "weather" in statement:
    api_key="8ef61edcf1c576d65d836254e11ea420"
    base_url="https://api.openweathermap.org/data/2.5/weather?"
    speak("whats the city name")
    city_name=takeCommand()
    complete_url=base_url+"appid="+api_key+"&q="+city_name
    response = requests.get(complete_url)
```

```
x=response.json()
if x["cod"]!="404":
    y=x["main"]
    current_temperature = y["temp"]
    current_humidiy = y["humidity"]
    z = x["weather"]
    weather_description = z[0]["description"]
    speak(" Temperature in kelvin unit is " +
          str(current_temperature) +
          "\n humidity in percentage is " +
          str(current_humidiy) +
          "\n description  " +
          str(weather_description))
    print(" Temperature in kelvin unit = " +
          str(current_temperature) +
          "\n humidity (in percentage) = " +
          str(current_humidiy) +
          "\n description = " +
          str(weather_description))

else:
    speak(" City Not Found ")
```

```
        elif 'time' in statement:
            strTime=datetime.datetime.now().strftime("%H:%M:%S")
            speak(f"the time is {strTime}")

        elif 'who are you' in statement or 'what can you do' in statement:
            speak('I am Yoru version 1 point O your persoanl assistant. I am programmed to minor tasks like'
                  'opening youtube,google chrome,gmail and stackoverflow ,predict time,search wikipedia,predict weather'
                  'in different cities , get top headline news from times of india and you can ask me computational or geographical questions too!')


        elif "who made you" in statement or "who created you" in statement or "who discovered you" in statement:
            speak("I was built by Anadi")
            print("I was built by Anadi")

        elif "open stackoverflow" in statement:
            webbrowser.open_new_tab("https://stackoverflow.com/login")
            speak("Here is stackoverflow")
```

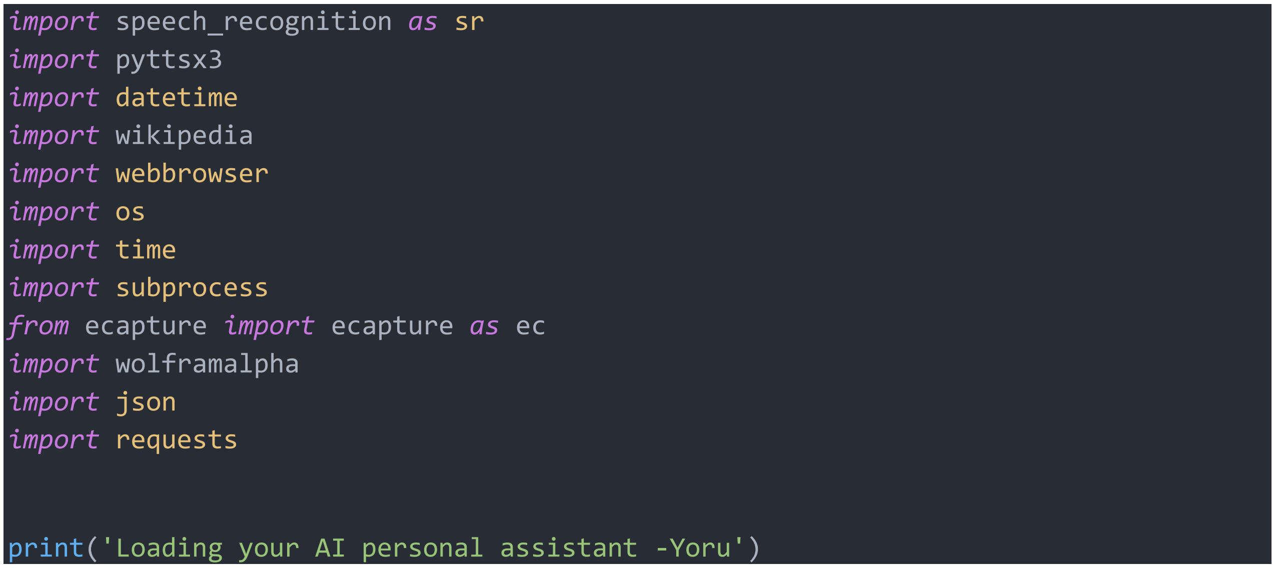
```
    elif 'news' in statement:
        news = webbrowser.open_new_tab("https://timesofindia.indiatimes.com/home/headlines")
        speak('Here are some headlines from the Times of India,Enjoy reading')
        time.sleep(6)

    elif 'search'  in statement:
        statement = statement.replace("search", "")
        webbrowser.open_new_tab(statement)
        time.sleep(5)

    elif 'ask' in statement:
        speak('I can answer to computational and geographical questions and what question do you want to ask now')
        question=takeCommand()
        app_id="R2K75H-7ELALHR35X"
        client = wolframalpha.Client('R2K75H-7ELALHR35X')
        res = client.query(question)
        answer = next(res.results).text
        speak(answer)
        print(answer)
        elif 'open code editor' in statement:
            codePath = (r"C:\Users\anadi\AppData\Local\Programs\Microsoft VS Code\Code.exe")
            os.startfile(codePath)


        elif "log off" in statement or "sign out" in statement:
            speak("Ok , your pc will log off in 10 sec make sure you exit from all applications")
            subprocess.call(["shutdown", "/l"])
time.sleep(3)
```

Code Images



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import pyttsx3
import datetime
import wikipedia
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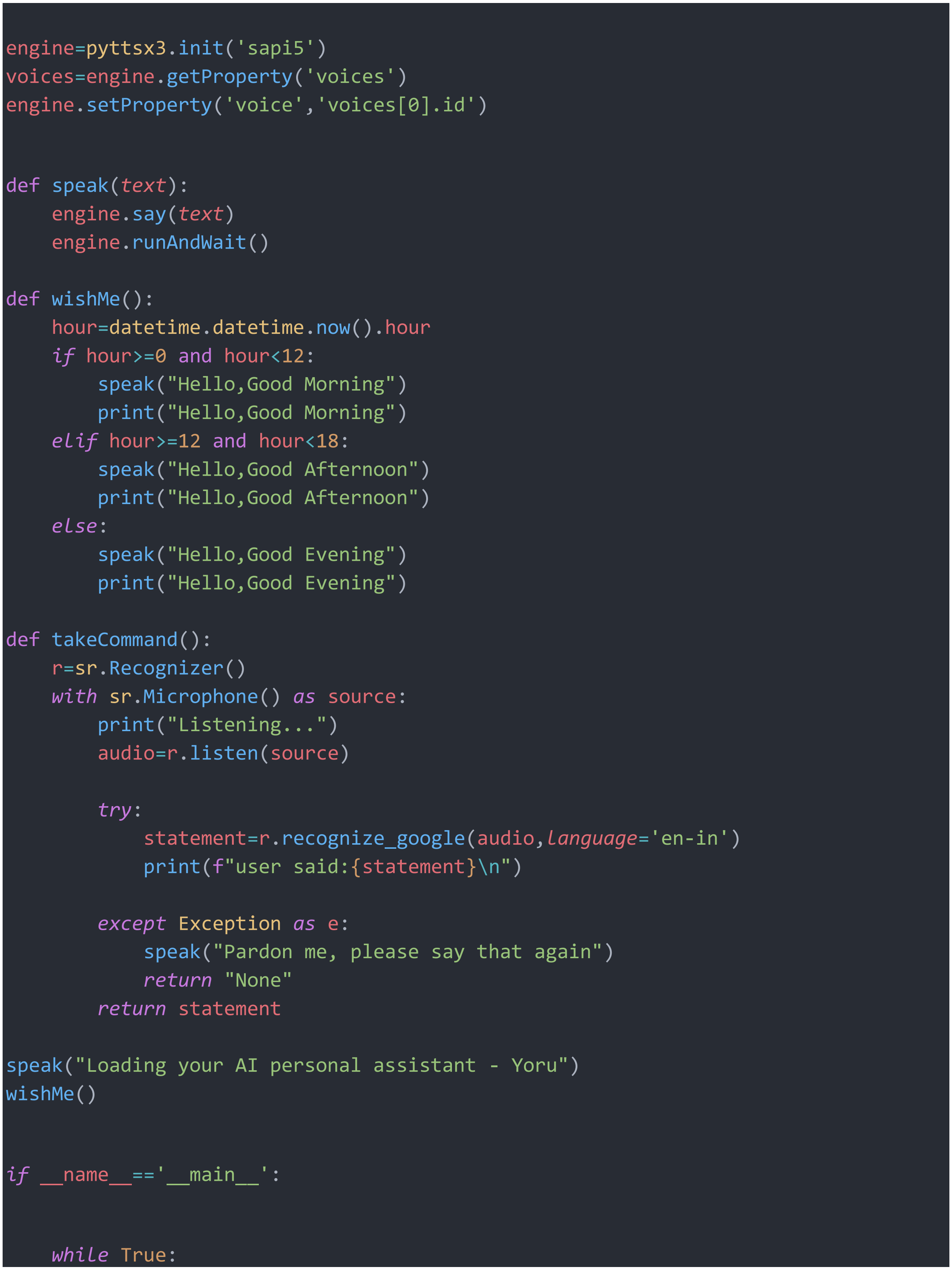
from ecapture import ecapture as ec
import wolframalpha
import json
import requests


print('Loading your AI personal assistant -Yoru')
```



```
engine=pyttsx3.init('sapi5')
voices=engine.getProperty('voices')
engine.setProperty('voice','voices[0].id')


def speak(text):
    engine.say(text)
    engine.runAndWait()

def wishMe():
    hour=datetime.datetime.now().hour
    if hour>=0 and hour<12:
        speak("Hello,Good Morning")
        print("Hello,Good Morning")
    elif hour>=12 and hour<18:
        speak("Hello,Good Afternoon")
        print("Hello,Good Afternoon")
    else:
        speak("Hello,Good Evening")
        print("Hello,Good Evening")

def takeCommand():
    r=sr.Recognizer()
    with sr.Microphone() as source:
        print("Listening...")
        audio=r.listen(source)

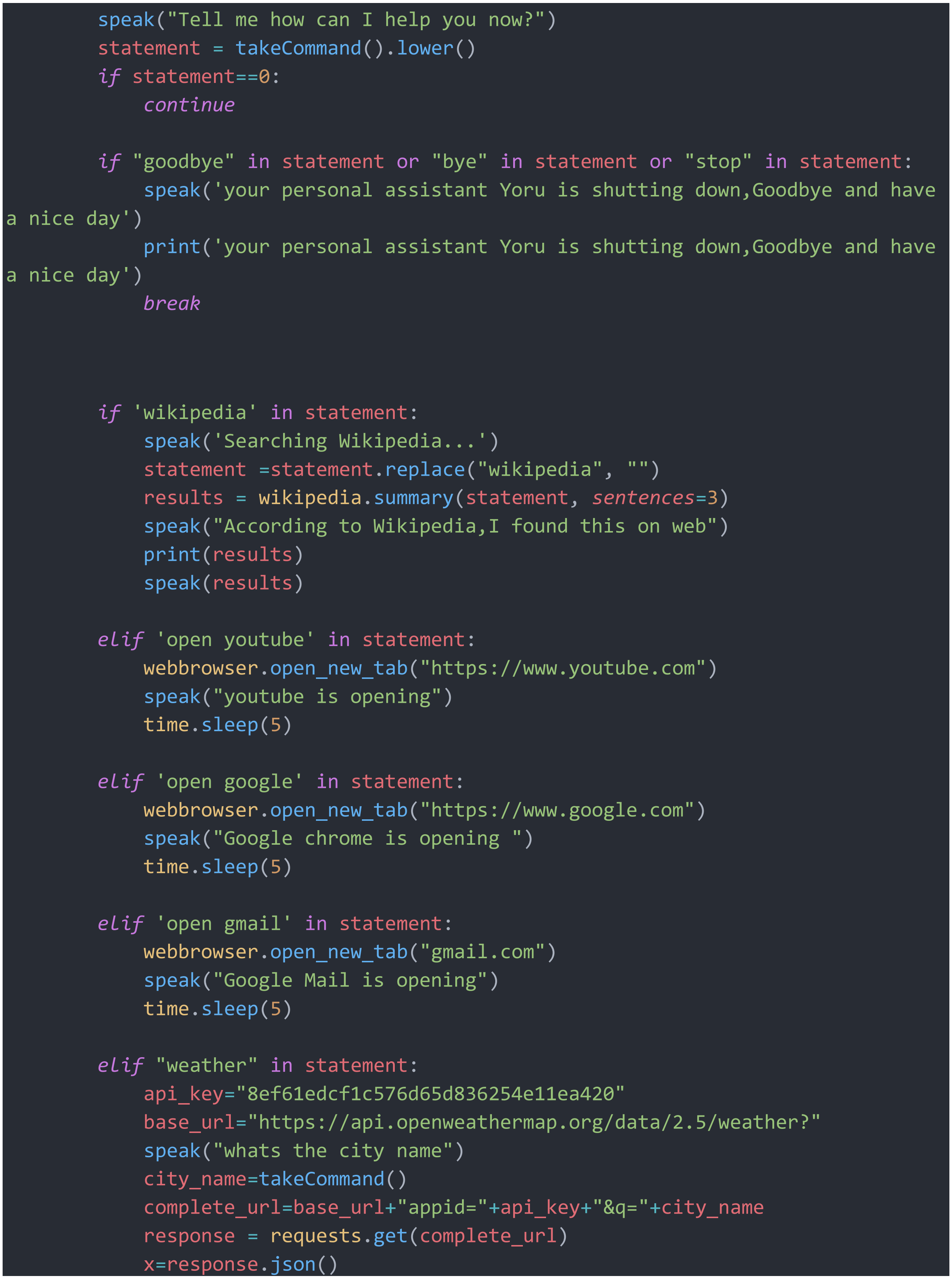
        try:
            statement=r.recognize_google(audio,language='en-in')
            print(f"user said:{statement}\n")

        except Exception as e:
            speak("Pardon me, please say that again")
            return "None"
        return statement

speak("Loading your AI personal assistant - Yoru")
wishMe()


if __name__=='__main__':


    while True:
```



```
        speak("Tell me how can I help you now?")
        statement = takeCommand().lower()
        if statement==0:
            continue

        if "goodbye" in statement or "bye" in statement or "stop" in statement:
            speak('your personal assistant Yoru is shutting down,Goodbye and have
a nice day')
            print('your personal assistant Yoru is shutting down,Goodbye and have
a nice day')
            break



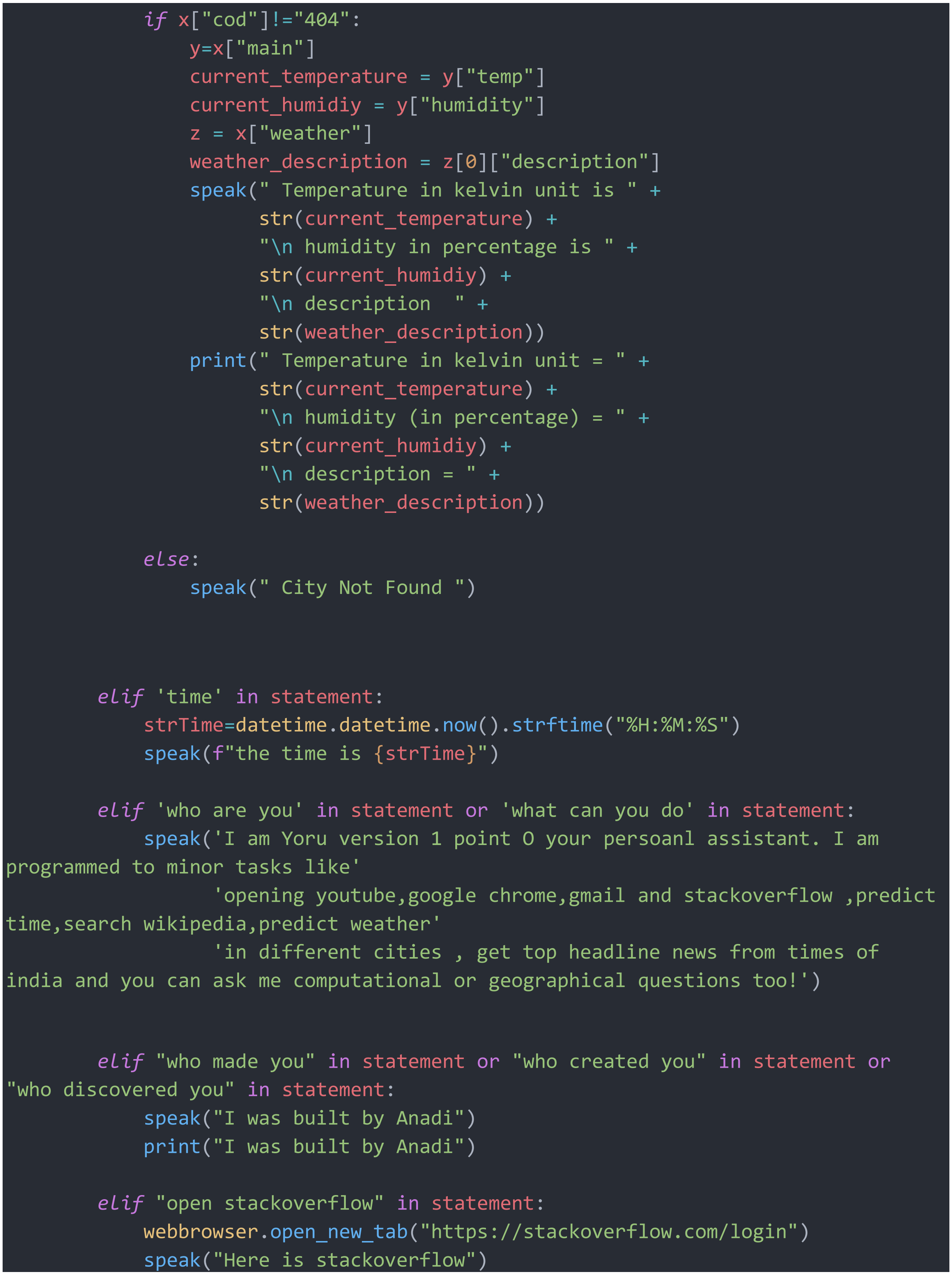
        if 'wikipedia' in statement:
            speak('Searching Wikipedia...')
            statement =statement.replace("wikipedia", "")
            results = wikipedia.summary(statement, sentences=3)
            speak("According to Wikipedia,I found this on web")
            print(results)
            speak(results)

        elif 'open youtube' in statement:
            webbrowser.open_new_tab("https://www.youtube.com")
            speak("youtube is opening")
            time.sleep(5)

        elif 'open google' in statement:
            webbrowser.open_new_tab("https://www.google.com")
            speak("Google chrome is opening ")
            time.sleep(5)

        elif 'open gmail' in statement:
            webbrowser.open_new_tab("gmail.com")
            speak("Google Mail is opening")
            time.sleep(5)

        elif "weather" in statement:
            api_key="8ef61edcf1c576d65d836254e11ea420"
            base_url="https://api.openweathermap.org/data/2.5/weather?"
            speak("whats the city name")
            city_name=takeCommand()
            complete_url=base_url+"appid="+api_key+"&q="+city_name
            response = requests.get(complete_url)
            x=response.json()
```



```
            if x["cod"]!="404":
                y=x["main"]
                current_temperature = y["temp"]
                current_humidiy = y["humidity"]
                z = x["weather"]
                weather_description = z[0]["description"]
                speak(" Temperature in kelvin unit is " +
                      str(current_temperature) +
                      "\n humidity in percentage is " +
                      str(current_humidiy) +
                      "\n description  " +
                      str(weather_description))
                print(" Temperature in kelvin unit = " +
                      str(current_temperature) +
                      "\n humidity (in percentage) = " +
                      str(current_humidiy) +
                      "\n description = " +
                      str(weather_description))

            else:
                speak(" City Not Found ")



        elif 'time' in statement:
            strTime=datetime.datetime.now().strftime("%H:%M:%S")
            speak(f"the time is {strTime}")

        elif 'who are you' in statement or 'what can you do' in statement:
            speak('I am Yoru version 1 point O your persoanl assistant. I am
programmed to minor tasks like'
                  'opening youtube,google chrome,gmail and stackoverflow ,predict
time,search wikipedia,predict weather'
                  'in different cities , get top headline news from times of
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        elif "who made you" in statement or "who created you" in statement or
"who discovered you" in statement:
            speak("I was built by Anadi")
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        elif "open stackoverflow" in statement:
            webbrowser.open_new_tab("https://stackoverflow.com/login")
            speak("Here is stackoverflow")
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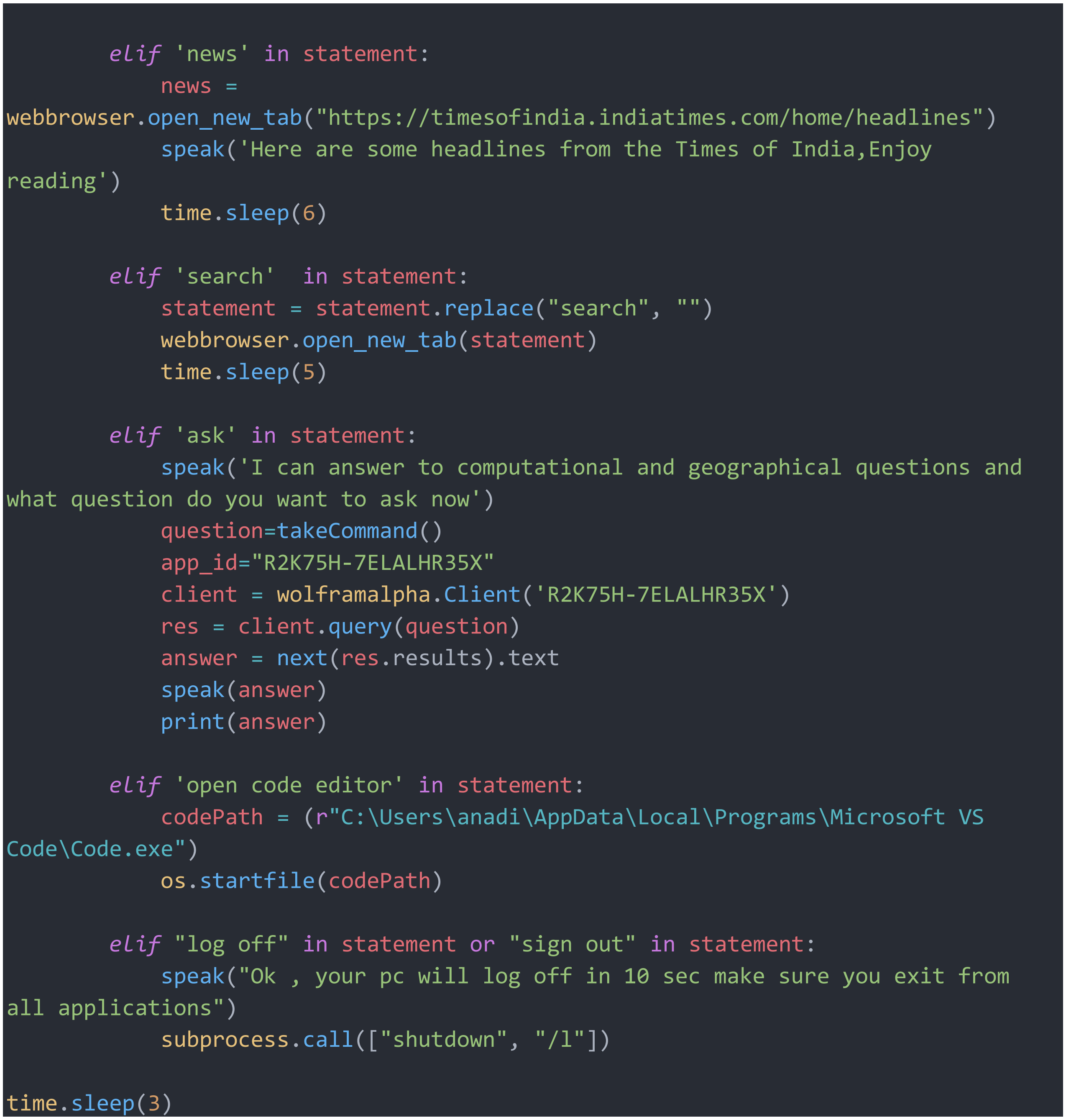
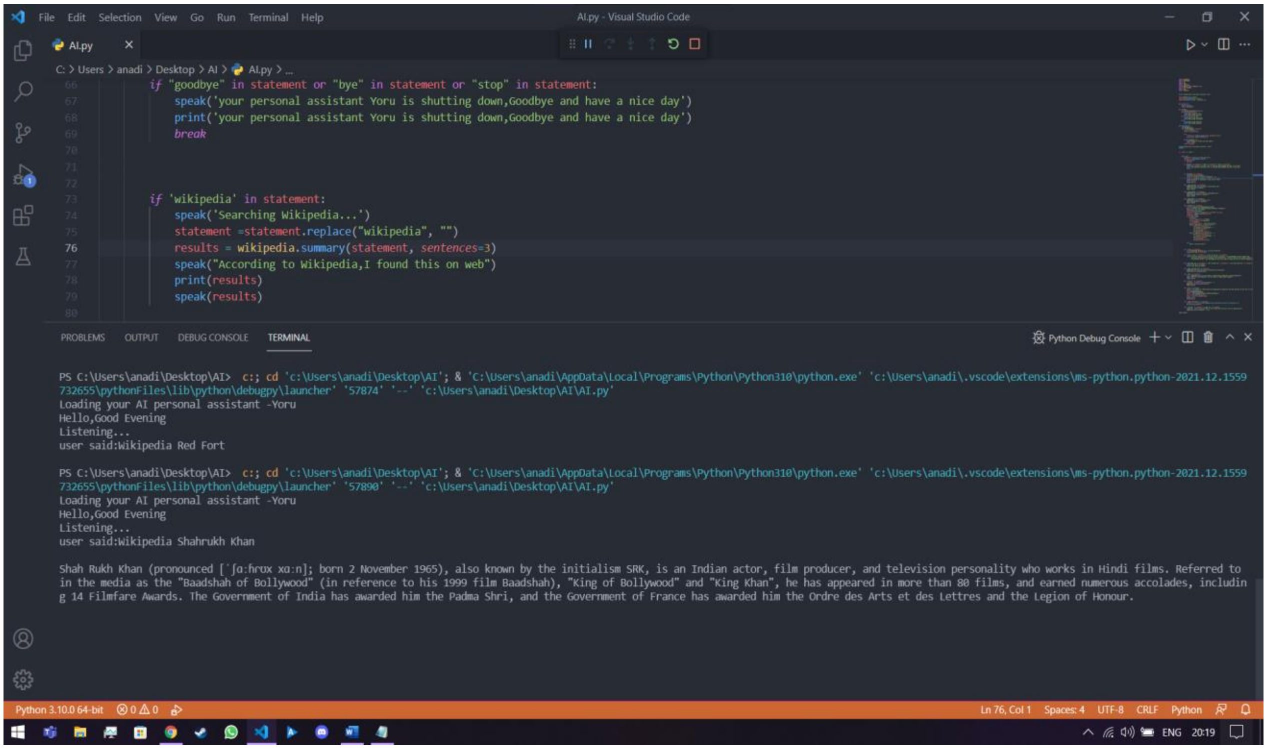


```
        elif 'news' in statement:
            news =
webbrowser.open_new_tab("https://timesofindia.indiatimes.com/home/headlines")
            speak('Here are some headlines from the Times of India,Enjoy
reading')
            time.sleep(6)

        elif 'search'  in statement:
            statement = statement.replace("search", "")
            webbrowser.open_new_tab(statement)
            time.sleep(5)

        elif 'ask' in statement:
            speak('I can answer to computational and geographical questions and
what question do you want to ask now')
            question=takeCommand()
            app_id="R2K75H-7ELALHR35X"
            client = wolframalpha.Client('R2K75H-7ELALHR35X')
            res = client.query(question)
            answer = next(res.results).text
            speak(answer)
            print(answer)

        elif 'open code editor' in statement:
            codePath = (r"C:\Users\anadi\AppData\Local\Programs\Microsoft VS
Code\Code.exe")
            os.startfile(codePath)

        elif "log off" in statement or "sign out" in statement:
            speak("Ok , your pc will log off in 10 sec make sure you exit from
all applications")
            subprocess.call(["shutdown", "/l"])

time.sleep(3)
```

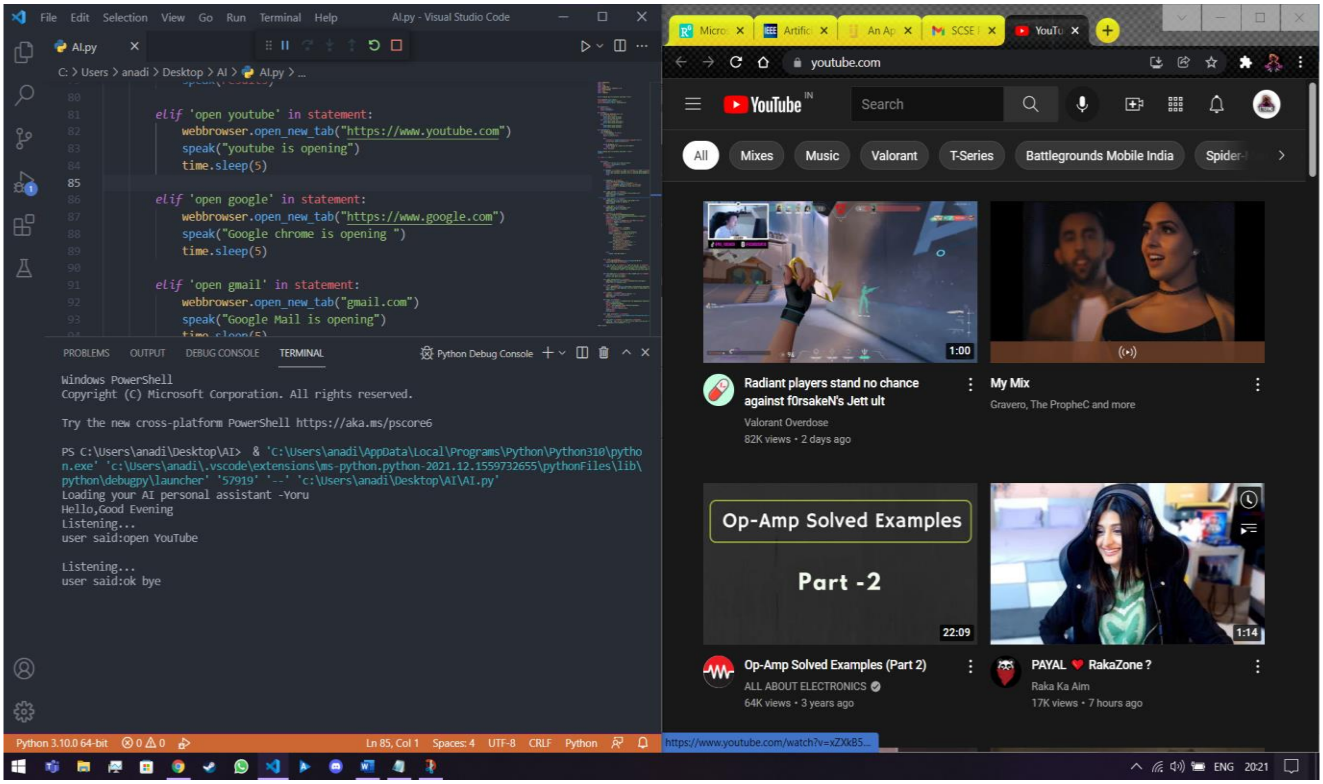
Code output:

Wikipedia function output



```
        if "goodbye" in statement or "bye" in statement or "stop" in statement:
            speak('your personal assistant Yoru is shutting down,Goodbye and have a nice day')
            print('your personal assistant Yoru is shutting down,Goodbye and have a nice day')
            break



        if 'wikipedia' in statement:
            speak('Searching Wikipedia...')
            statement =statement.replace("wikipedia", "")
            results = wikipedia.summary(statement, sentences=3)
            speak("According to Wikipedia,I found this on web")
            print(results)
            speak(results)

```

```
PS C:\Users\anadi\Desktop\AI>  c:; cd 'c:\Users\anadi\Desktop\AI'; & 'C:\Users\anadi\AppData\Local\Programs\Python\Python310\python.exe' 'c:\Users\anadi\.vscode\extensions\ms-python.python-2021.12.1559
732655\pythonFiles\lib\python\debugpy\launcher' '57874' '--' 'c:\Users\anadi\Desktop\AI\AI.py'
Loading your AI personal assistant -Yoru
Hello,Good Evening
Listening...
user said:Wikipedia Red Fort

PS C:\Users\anadi\Desktop\AI>  c:; cd 'c:\Users\anadi\Desktop\AI'; & 'C:\Users\anadi\AppData\Local\Programs\Python\Python310\python.exe' 'c:\Users\anadi\.vscode\extensions\ms-python.python-2021.12.1559
732655\pythonFiles\lib\python\debugpy\launcher' '57890' '--' 'c:\Users\anadi\Desktop\AI\AI.py'
Loading your AI personal assistant -Yoru
Hello,Good Evening
Listening...
user said:Wikipedia Shahrukh Khan

Shah Rukh Khan (pronounced [ˈʃɑːɦrʊx xɑːn]; born 2 November 1965), also known by the initialism SRK, is an Indian actor, film producer, and television personality who works in Hindi films. Referred to
in the media as the "Baadshah of Bollywood" (in reference to his 1999 film Baadshah), "King of Bollywood" and "King Khan", he has appeared in more than 80 films, and earned numerous accolades, includin
g 14 Filmfare Awards. The Government of India has awarded him the Padma Shri, and the Government of France has awarded him the Ordre des Arts et des Lettres and the Legion of Honour.
```



```
            speak(results)

        elif 'open youtube' in statement:
            webbrowser.open_new_tab("https://www.youtube.com")
            speak("youtube is opening")
            time.sleep(5)

        elif 'open google' in statement:
            webbrowser.open_new_tab("https://www.google.com")
            speak("Google chrome is opening ")
            time.sleep(5)

        elif 'open gmail' in statement:
            webbrowser.open_new_tab("gmail.com")
            speak("Google Mail is opening")
            time.sleep(5)
```

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\anadi\Desktop\AI>  & 'C:\Users\anadi\AppData\Local\Programs\Python\Python310\pytho
n.exe' 'c:\Users\anadi\.vscode\extensions\ms-python.python-2021.12.1559732655\pythonFiles\lib\
python\debugpy\launcher' '57919' '--' 'c:\Users\anadi\Desktop\AI\AI.py'
Loading your AI personal assistant -Yoru
Hello,Good Evening
Listening...
user said:open YouTube

Listening...
user said:ok bye
```
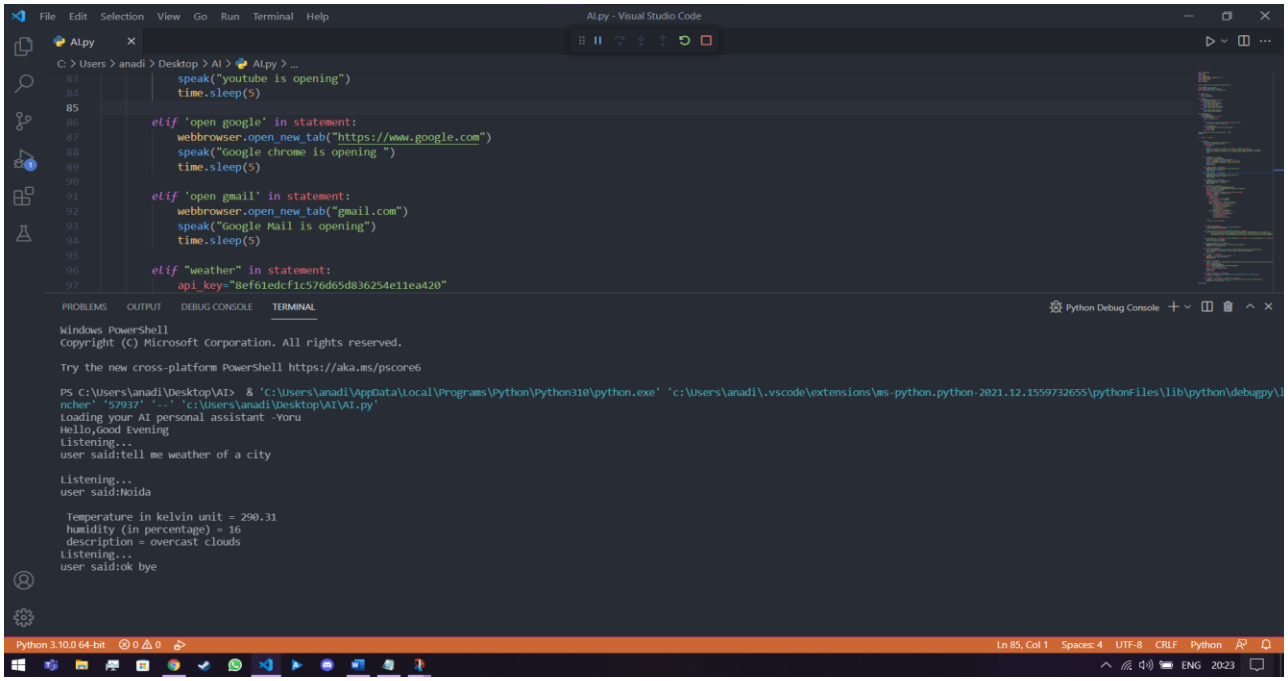

File Edit Selection View Go Run Terminal Help
AI.py - Visual Studio Code
AI.py
C: > Users > anadi > Desktop > AI > AI.py > ...
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Python Debug Console
Python 3.10.0 64-bit ⊗ 0 ⚠ 0
Ln 85, Col 1 Spaces: 4 UTF-8 CRLF Python
youtube.com
YouTube
Search
All Mixes Music Valorant T-Series Battlegrounds Mobile India Spider-
Radiant players stand no chance against f0rsakeN's Jett ult
Valorant Overdose
82K views • 2 days ago
1:00
My Mix
Gravero, The PropheC and more
Op-Amp Solved Examples
Part -2
22:09
Op-Amp Solved Examples (Part 2)
ALL ABOUT ELECTRONICS
64K views • 3 years ago
PAYAL ❤ RakaZone ?
Raka Ka Aim
17K views • 7 hours ago
1:14
https://www.youtube.com/watch?v=xZXkB5...
ENG 20:21



```
            speak("youtube is opening")
            time.sleep(5)

        elif 'open google' in statement:
            webbrowser.open_new_tab("https://www.google.com")
            speak("Google chrome is opening ")
            time.sleep(5)

        elif 'open gmail' in statement:
            webbrowser.open_new_tab("gmail.com")
            speak("Google Mail is opening")
            time.sleep(5)

        elif "weather" in statement:
            api_key="8ef61edcf1c576d65d836254e11ea420"
```

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\anadi\Desktop\AI>  & 'C:\Users\anadi\AppData\Local\Programs\Python\Python310\python.exe' 'c:\Users\anadi\.vscode\extensions\ms-python.python-2021.12.1559732655\pythonFiles\lib\python\debugpy\l
ncher' '57937' '--' 'c:\Users\anadi\Desktop\AI\AI.py'
Loading your AI personal assistant -Yoru
Hello,Good Evening
Listening...
user said:tell me weather of a city

Listening...
user said:Noida

 Temperature in kelvin unit = 290.31
 humidity (in percentage) = 16
 description = overcast clouds
Listening...
user said:ok bye
```
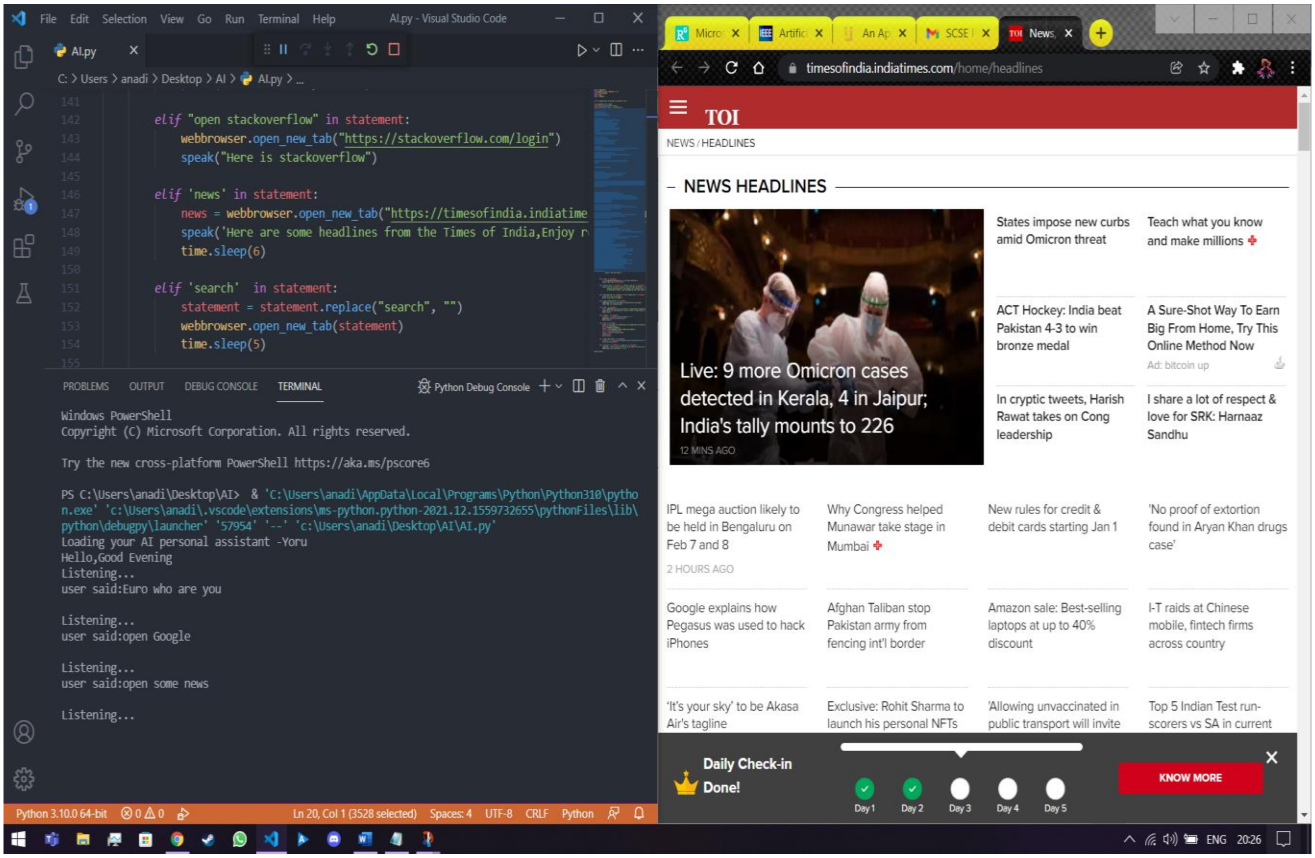

File Edit Selection View Go Run Terminal Help
AI.py - Visual Studio Code
AI.py
C: > Users > anadi > Desktop > AI > AI.py > ...
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Python Debug Console
Python 3.10.0 64-bit ⊗ 0 ⚠ 0
Ln 85, Col 1 Spaces: 4 UTF-8 CRLF Python
ENG 20:23



```
        elif "open stackoverflow" in statement:
            webbrowser.open_new_tab("https://stackoverflow.com/login")
            speak("Here is stackoverflow")

        elif 'news' in statement:
            news = webbrowser.open_new_tab("https://timesofindia.indiatime
            speak('Here are some headlines from the Times of India,Enjoy r
            time.sleep(6)

        elif 'search'  in statement:
            statement = statement.replace("search", "")
            webbrowser.open_new_tab(statement)
            time.sleep(5)
```

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\anadi\Desktop\AI>  & 'C:\Users\anadi\AppData\Local\Programs\Python\Python310\pytho
n.exe' 'c:\Users\anadi\.vscode\extensions\ms-python.python-2021.12.1559732655\pythonFiles\lib\
python\debugpy\launcher' '57954' '--' 'c:\Users\anadi\Desktop\AI\AI.py'
Loading your AI personal assistant -Yoru
Hello,Good Evening
Listening...
user said:Euro who are you

Listening...
user said:open Google

Listening...
user said:open some news

Listening...
```

File Edit Selection View Go Run Terminal Help
AI.py - Visual Studio Code
C: > Users > anadi > Desktop > AI > AI.py > ...
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Python Debug Console
Python 3.10.0 64-bit ⊗ 0 ⚠ 0 Ln 20, Col 1 (3528 selected) Spaces: 4 UTF-8 CRLF Python
timesofindia.indiatimes.com/home/headlines
TOI
NEWS / HEADLINES
ENG 20:26

NEWS HEADLINES

Live: 9 more Omicron cases detected in Kerala, 4 in Jaipur; India's tally mounts to 226

12 MINS AGO

States impose new curbs amid Omicron threat

Teach what you know and make millions

ACT Hockey: India beat Pakistan 4-3 to win bronze medal

A Sure-Shot Way To Earn Big From Home, Try This Online Method Now

Ad: bitcoin up

In cryptic tweets, Harish Rawat takes on Cong leadership

I share a lot of respect & love for SRK: Harnaaz Sandhu

IPL mega auction likely to be held in Bengaluru on Feb 7 and 8

2 HOURS AGO

Why Congress helped Munawar take stage in Mumbai

New rules for credit & debit cards starting Jan 1

'No proof of extortion found in Aryan Khan drugs case'

Google explains how Pegasus was used to hack iPhones

Afghan Taliban stop Pakistan army from fencing int'l border

Amazon sale: Best-selling laptops at up to 40% discount

I-T raids at Chinese mobile, fintech firms across country

'It's your sky' to be Akasa Air's tagline

Exclusive: Rohit Sharma to launch his personal NFTs

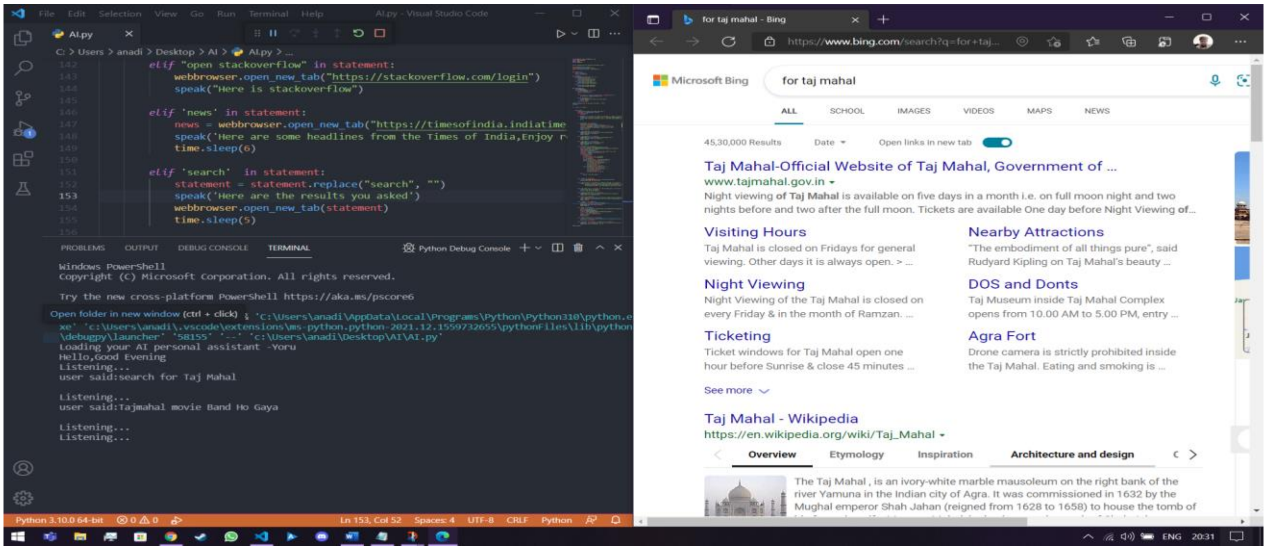
'Allowing unvaccinated in public transport will invite

Top 5 Indian Test run-scorers vs SA in current

Daily Check-in Done!

Day 1 Day 2 Day 3 Day 4 Day 5

KNOW MORE



```
        elif "open stackoverflow" in statement:
            webbrowser.open_new_tab("https://stackoverflow.com/login")
            speak("Here is stackoverflow")

        elif 'news' in statement:
            news = webbrowser.open_new_tab("https://timesofindia.indiatime
            speak('Here are some headlines from the Times of India,Enjoy r
            time.sleep(6)

        elif 'search'  in statement:
            statement = statement.replace("search", "")
            speak('Here are the results you asked')
            webbrowser.open_new_tab(statement)
            time.sleep(5)
```

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

Open folder in new window (ctrl + click) & 'C:\Users\anadi\AppData\Local\Programs\Python\Python310\python.e
xe' 'c:\Users\anadi\.vscode\extensions\ms-python.python-2021.12.1559732655\pythonFiles\lib\python
\debugpy\launcher' '58155' '--' 'c:\Users\anadi\Desktop\AI\AI.py'
Loading your AI personal assistant -Yoru
Hello,Good Evening
Listening...
user said:search for Taj Mahal

Listening...
user said:Tajmahal movie Band Ho Gaya

Listening...
Listening...
```

Python 3.10.0 64-bit ⊗ 0 ⚠ 0 Ln 153, Col 52 Spaces: 4 UTF-8 CRLF Python
for taj mahal - Bing
https://www.bing.com/search?q=for+taj...
Microsoft Bing
ALL SCHOOL IMAGES VIDEOS MAPS NEWS
ENG 20:31

for taj mahal

45,30,000 Results Date Open links in new tab

Taj Mahal-Official Website of Taj Mahal, Government of ...

www.tajmahal.gov.in

Night viewing of Taj Mahal is available on five days in a month i.e. on full moon night and two nights before and two after the full moon. Tickets are available One day before Night Viewing of...

Visiting Hours

Taj Mahal is closed on Fridays for general viewing. Other days it is always open. > ...

Nearby Attractions

"The embodiment of all things pure", said Rudyard Kipling on Taj Mahal's beauty ...

Night Viewing

Night Viewing of the Taj Mahal is closed on every Friday & in the month of Ramzan. ...

DOS and Donts

Taj Museum inside Taj Mahal Complex opens from 10.00 AM to 5.00 PM, entry ...

Ticketing

Ticket windows for Taj Mahal open one hour before Sunrise & close 45 minutes ...

Agra Fort

Drone camera is strictly prohibited inside the Taj Mahal. Eating and smoking is ...

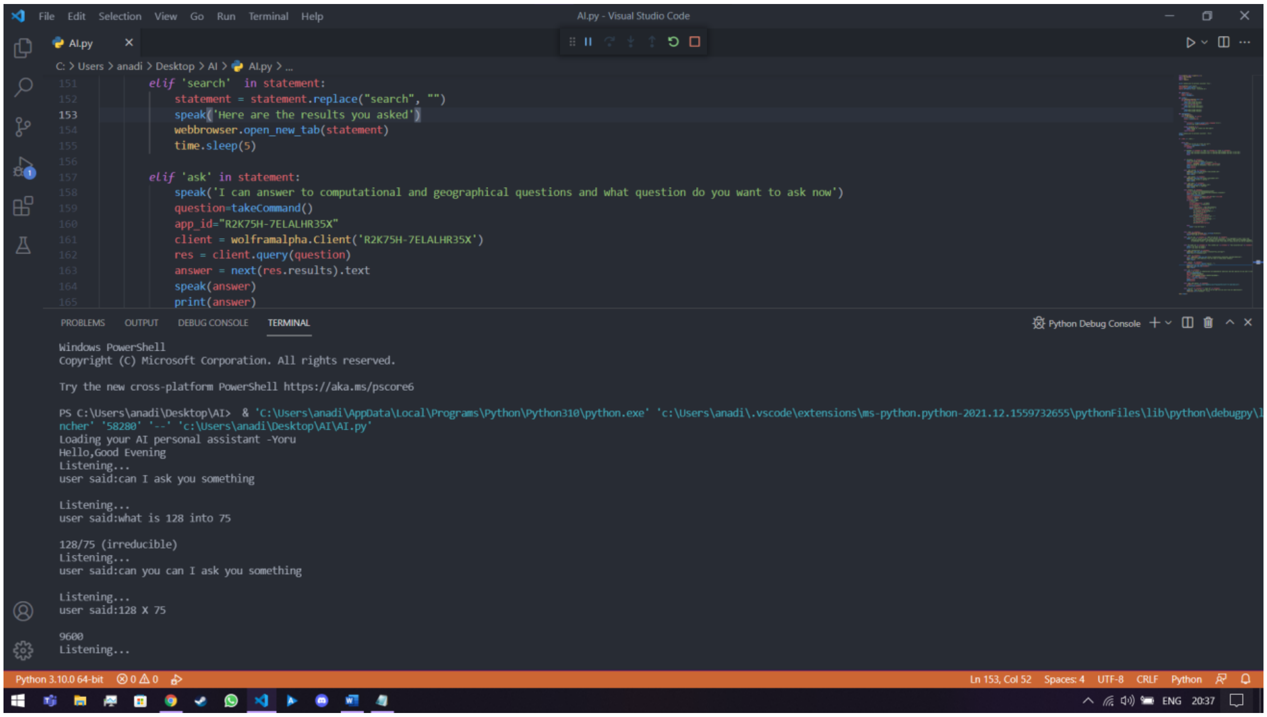
See more

Taj Mahal - Wikipedia

https://en.wikipedia.org/wiki/Taj_Mahal

Overview Etymology Inspiration Architecture and design

The Taj Mahal , is an ivory-white marble mausoleum on the right bank of the river Yamuna in the Indian city of Agra. It was commissioned in 1632 by the Mughal emperor Shah Jahan (reigned from 1628 to 1658) to house the tomb of


File Edit Selection View Go Run Terminal Help
AI.py - Visual Studio Code
AI.py
C: > Users > anadi > Desktop > AI > AI.py > ...
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Python Debug Console
Python 3.10.0 64-bit ⊗ 0 ⚠ 0
Ln 153, Col 52 Spaces: 4 UTF-8 CRLF Python
ENG 20:37

```
        elif 'search'  in statement:
            statement = statement.replace("search", "")
            speak('Here are the results you asked')
            webbrowser.open_new_tab(statement)
            time.sleep(5)

        elif 'ask' in statement:
            speak('I can answer to computational and geographical questions and what question do you want to ask now')
            question=takeCommand()
            app_id="R2K75H-7ELALHR35X"
            client = wolframalpha.Client('R2K75H-7ELALHR35X')
            res = client.query(question)
            answer = next(res.results).text
            speak(answer)
            print(answer)
```

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\anadi\Desktop\AI>  & 'C:\Users\anadi\AppData\Local\Programs\Python\Python310\python.exe' 'c:\Users\anadi\.vscode\extensions\ms-python.python-2021.12.1559732655\pythonFiles\lib\python\debugpy\l
ncher' '58280' '--' 'c:\Users\anadi\Desktop\AI\AI.py'
Loading your AI personal assistant -Yoru
Hello,Good Evening
Listening...
user said:can I ask you something

Listening...
user said:what is 128 into 75

128/75 (irreducible)
Listening...
user said:can you can I ask you something

Listening...
user said:128 X 75

9600
Listening...
```
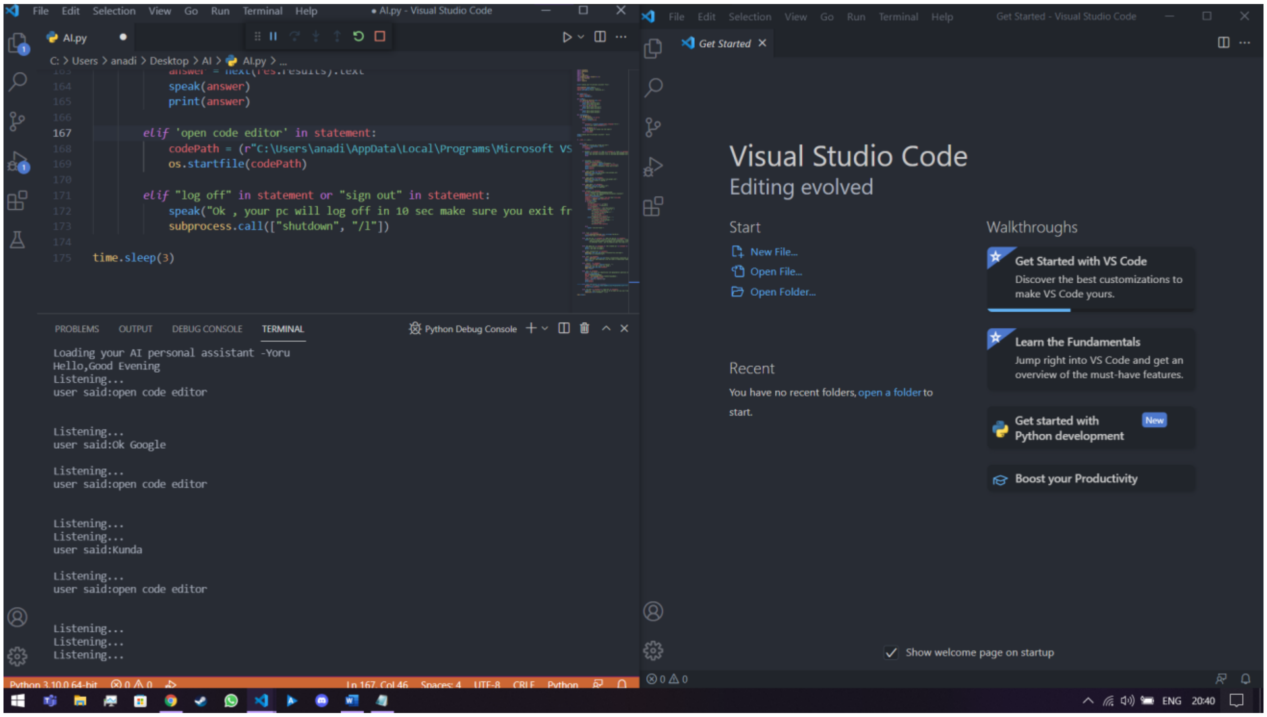


File Edit Selection View Go Run Terminal Help
● AI.py - Visual Studio Code
AI.py
C: > Users > anadi > Desktop > AI > AI.py > ...
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Python Debug Console
Python 3.10.0 64-bit ⊗ 0 ⚠ 0
Ln 167, Col 46 Spaces: 4 UTF-8 CRLF Python
File Edit Selection View Go Run Terminal Help
Get Started - Visual Studio Code
Get Started
New File...
Open File...
Open Folder...
New
⊗ 0 ⚠ 0
ENG 20:40

```
            answer = next(res.results).text
            speak(answer)
            print(answer)

        elif 'open code editor' in statement:
            codePath = (r"C:\Users\anadi\AppData\Local\Programs\Microsoft VS
            os.startfile(codePath)

        elif "log off" in statement or "sign out" in statement:
            speak("Ok , your pc will log off in 10 sec make sure you exit fr
            subprocess.call(["shutdown", "/l"])

time.sleep(3)
```

```
Loading your AI personal assistant -Yoru
Hello,Good Evening
Listening...
user said:open code editor


Listening...
user said:Ok Google

Listening...
user said:open code editor


Listening...
Listening...
user said:Kunda

Listening...
user said:open code editor


Listening...
Listening...
Listening...
```

Visual Studio Code

Editing evolved

Start

Walkthroughs

Get Started with VS Code

Discover the best customizations to make VS Code yours.

Learn the Fundamentals

Jump right into VS Code and get an overview of the must-have features.

Get started with Python development

Boost your Productivity

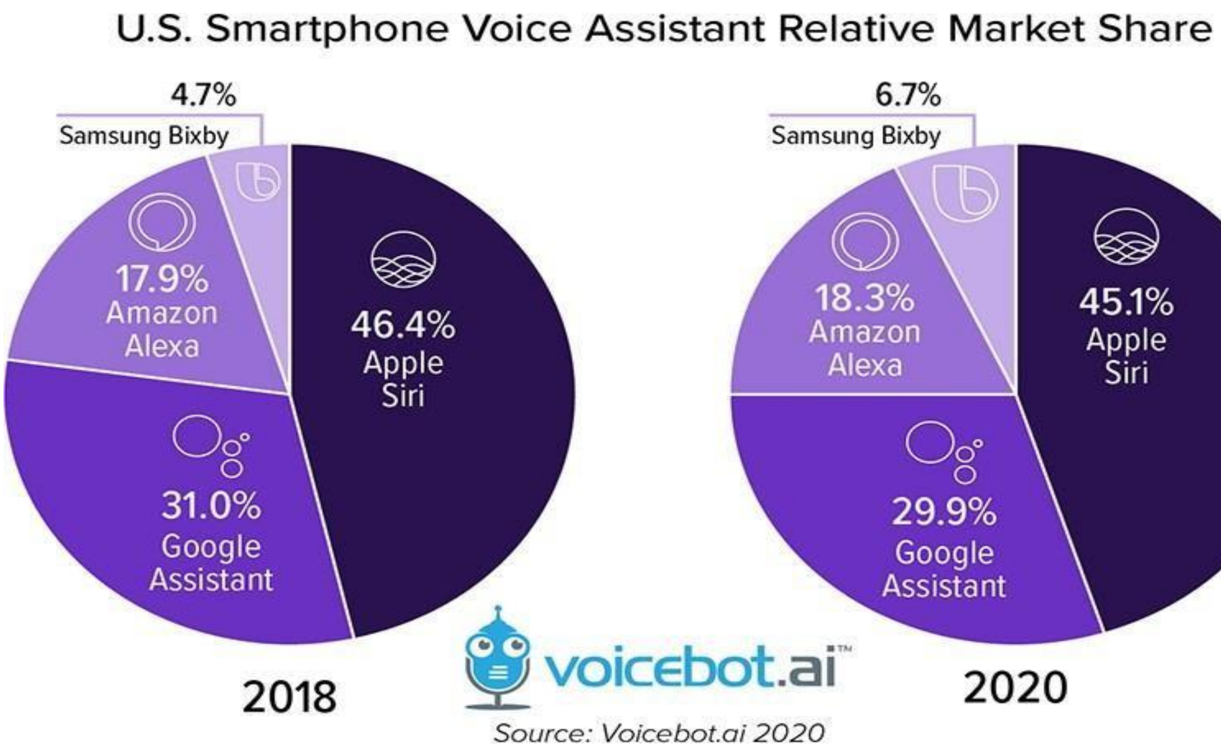
Recent

You have no recent folders, open a folder to start.

✓ Show welcome page on startup

FUTURE SCOPE

The real assistants currently available are quick and responsive but we still have to go a long way. The understanding and reliability of current systems requires significant improvements. The helpers available these days are not yet faithful in critical situations. The future of these assistants will have real assistants included with Artificial Intelligence including Mission Learning, Neural Networks, etc. and IoT. With the introduction of this technology, we will be able to achieve new heights. What the real helpers can achieve is far beyond what we have achieved so far. Most of us have seen Jarvis, the visual assistant developed by a metal man which is an imaginary fact but this has set new standards for what we can achieve using voice assistants.



Source: Voicebot.ai 2020

Figure: Accuracy Of Results Over Time

CONCLUSION

In this paper we discussed the Voice Activated Personal Assistant made in python. This assistant currently works online and performs basic tasks such as weather updates, streaming music, searching Wikipedia, opening desktop apps, etc. The functionality of the current system is limited to online operations only. The upcoming upgrade of this assistant will feature system- enabled machine learning that will lead to better IoT suggestions for managing nearby devices similar to what Amazon does.

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