Dharmsinh Desai University

Department of MCA

Semester - II

Python Programming

Termwork Report
Submitted by

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Python Termwork

Name : Nair Aditya Sunil
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Title : Voice Based Assistant

Problem Definition:
An automated assistant to control your device by just saying the commands.

Outcome:
Using voice commands user will be able to perform various operations.

Commands:
1. Open website
2. Time
3. Greet
4. Search the web
5. Play Music
6. Set Reminder
7. Send email
8. Search Wikipedia
9. Take Notes
10. Define a word

Code

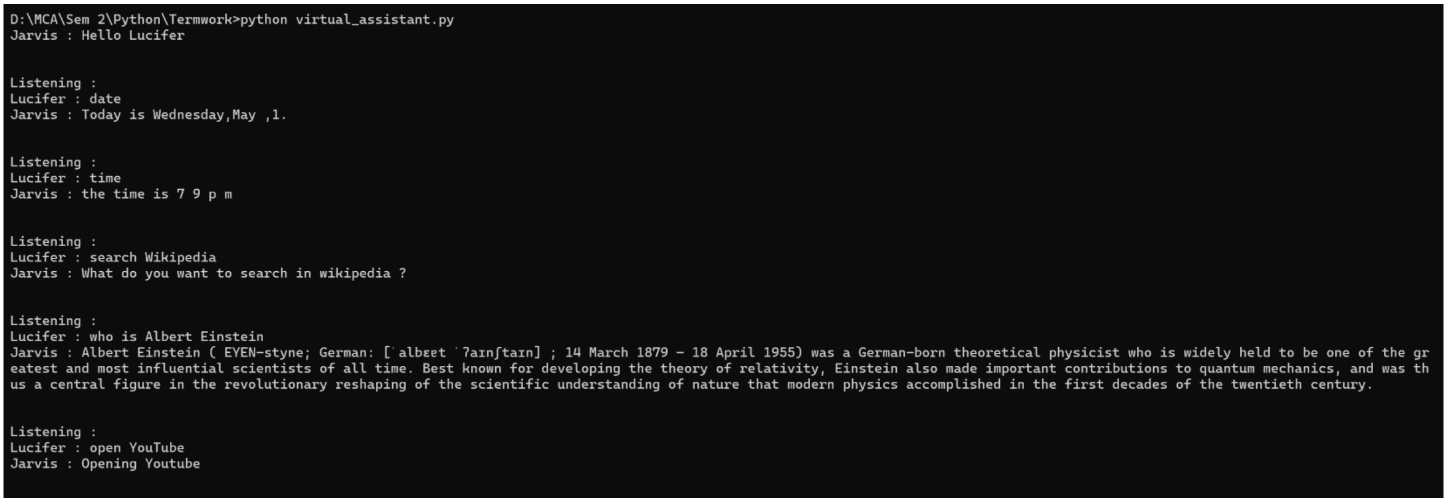
```
# Importing packages
import warnings
import pyttsx3
import speech_recognition as sr
import smtplib
import os
import datetime
import calendar
import random
import subprocess
import webbrowser
import wikipedia
import pywhatkit
from selenium import webdriver


warnings.filterwarnings("ignore")
# Making text to speech engine
engine = pyttsx3.init()

# Giving voice to our assistant
voices = engine.getProperty('voices')      #getting details of current voice
engine.setProperty('voice', voices[0].id)   #changing index, changes voices. 1 for female


# Function to make engine talk
def talk(audio):
    engine.say(audio)
    engine.runAndWait()
##

# Function to receive audio from the user
def get_Audio():
    record = sr.Recognizer()

    # Using microphone to get audio input
    with sr.Microphone() as source:
        print("\n")
        print("Listening : ")
        audio = record.listen(source)

        # Using google speech recognition to recognise the speech
        data = " "
        try:
            data = record.recognize_google(audio)

        except sr.UnknownValueError:
            talk("Unable To Understand")
            print("Unable To Understand")
            return " "

        except sr.RequestError as e:
            talk("Error From Google Speech Recognition")
            print("Error From Google Speech Recognition")
            return " "

        print("Lucifer : "+data)
        return data
##

def note(text):
    date = datetime.datetime.now()
    file_name = str(date).replace(":", "-") + "-note.txt"
    with open(file_name, "w") as f:
        f.write(text)

    subprocess.Popen(["notepad.exe", file_name])
##

def send_email(to, content):
    server = smtplib.SMTP("smtp.gmail.com", 587)
    server.ehlo()
    server.starttls()

    # Enable low security in gmail
    server.login("nairaditya2003@gmail.com", "zzjhccdkqageyzte")
    server.sendmail("nairaditya2003@gmail.com", to, content)
    server.close()



# Making wake word for the assistant
def call(text):
    call_assistant = "jarvis"
    text = text.lower()
    if call_assistant in text:
        return True
    return False
##

def get_today():
    # Get current date time
    now = datetime.datetime.now()
    date_now = datetime.datetime.today()
    week_now = calendar.day_name[date_now.weekday()]
    month_now = now.month
    day_now = now.day
    months = ['January','February', 'March', 'April', 'May', 'June','July', 'August', 'September',
'October', 'November', 'December']
    ordinals = ['1', '2', '3', '4', '5', '6', '7', '8', '9', '10','11', '12', '13', '14', '15', '16', '17', '18', '19',
'20','21', '22', '23', '24', '25', '26', '27', '28', '29', '30','31']
    return f'Today is {week_now},{months[month_now -1]} ,{ordinals[day_now-1]}.'
##

def greet(text):
    greetings = [
        "hello",
        "hi",
        "hey",
        "how are you?"
    ]

    response = [
        "Hello",
        "Hi",
        "Hey",
    ]

    for word in text.lower().split():
        if word in greetings:
            return random.choice(response)

    return ""
##

def wiki(text):
    # Convert the input text to lowercase for case insensitivity
    text_lower = text.lower()

    if "who is" in text_lower:
        # Find the index of "who is" in the lowercased text
        index = text_lower.find("who is")
        if index != -1:
            # Extract the term following "who is"
            return text[index + len("who is"):].strip()

    elif "what is" in text_lower:
        # Find the index of "what is" in the lowercased text
        index = text_lower.find("what is")
        if index != -1:
            # Extract the term following "what is"
            return text[index + len("what is"):].strip()

    return None  # Return None if no valid query pattern is found
##



name = "Lucifer"
print("Jarvis : Hello "+name)
talk("Hello "+name)
while True:
    try:
        text = get_Audio()
        speak = ""
        if call(text):
```

```
        speak = speak + greet(text)
        print("Jarvis : "+speak+ " " + name)
        talk(speak + name)

    elif ("date" in text) or ("day" in text) or ("month" in text):
        today = get_today()
        speak = speak + today
        print("Jarvis : "+speak)
        talk(speak)

    elif "time" in text:
        current_time = datetime.datetime.now()
        meridiem = ""

        if current_time.hour >= 12:
            meridiem = "p m"
            hour = current_time.hour - 12
        else:
            meridiem = "a m"
            hour = current_time.hour

        minute = str(current_time.minute)
        speak = speak + "the time is " + str(hour) + " " + minute + " " + meridiem
        print("Jarvis : "+speak)
        talk(speak)

    elif "wikipedia" in text or "Wikipedia" in text:
        print("Jarvis : What do you want to search in wikipedia ?")
        talk("What do you want to search in wikipedia ?")
        search = get_Audio()
        if "who is" in text:
            person = wiki(text)
            info = wikipedia.summary(person,sentences=2)
            speak = speak + info
            print("Javis : "+speak)
            talk(speak)
        else:
            person = wiki(search)
            info = wikipedia.summary(person,sentences=2)
            speak = speak + info
            print("Jarvis : "+speak)
            # talk(speak)
            talk(speak)

    elif "open" in text.lower():
        if "chrome" in text.lower():
            speak = speak + "Opening Google Chrome"
            talk(speak)
            os.startfile(
                r"C:\Program Files\Google\Chrome\Application\chrome.exe"
            )

        elif "youtube" in text.lower():
            speak = speak + "Opening Youtube\n"
             talk("Opening Youtube")
            print("Jarvis : Opening Youtube")
            webbrowser.open("https://youtube.com/")

        # Search
        elif "google" in text.lower():
            talk("What do you want to search in Google?")
            print("Jarvis: What do you want to search in Google?")
            search = get_Audio()
            print("Jarvis : Opening Google")
            talk("Opening Google")
            search_query_encoded = "+".join(search.split())
            search_url = f"https://www.google.com/search?q={search_query_encoded}"
            webbrowser.open(search_url)
            print(f"Jarvis : Opening {search} in Google.")
            talk(f"Opening {search} in Google")

        elif "word" in text.lower():
                speak = speak + "Opening Microsoft Word"
                print("Jarvis : " +speak)
                talk(speak)
                os.startfile(
                    r"C:\Program Files\Microsoft Office\root\Office16\WINWORD.exe"
                )
        elif "excel" in text.lower():
            speak = speak + "Opening Microsoft Excel"
            print("Jarvis : " +speak)
            talk(speak)
            os.startfile(
                r"C:\Program Files\Microsoft Office\root\Office16\EXCEL.EXE"
            )

        elif "powerpoint" in text.lower():
            speak = speak + "Opening Microsoft PowerPoint"
            print("Jarvis : " +speak)
            talk(speak)
            os.startfile(
                r"C:\Program Files\Microsoft Office\root\Office16\POWERPNT.EXE"
            )

    elif "email" in text or "gmail" in text or "mail" in text:
        try:
            talk("What should I say")
            print("Jarvis : What should I say ?")
            content = get_Audio()
            talk("Enter Receivers Email")
            to = input("Jarvis : Enter Receivers Email : ")
            send_email(to,content)
            speak = speak + "Email Has Been Sent"
            print("Jarvis : Email Has Been Sent")
            talk(speak)
        except Exception as e:
            print(e)
            print("Jarvis : I am not able to sent this email")
            talk("I am not able to sent this email")

    elif "set reminder" in text.lower():
        print("Jarvis : What do you want me to remember ? ")
        talk("What do you want me to remember?")
        msg = get_Audio()
        talk("You asked me to remind you that : " +msg)
        print("Jarvis : You asked me to remind you that : " +msg)
        rem_file = open('reminder.txt','a')
```

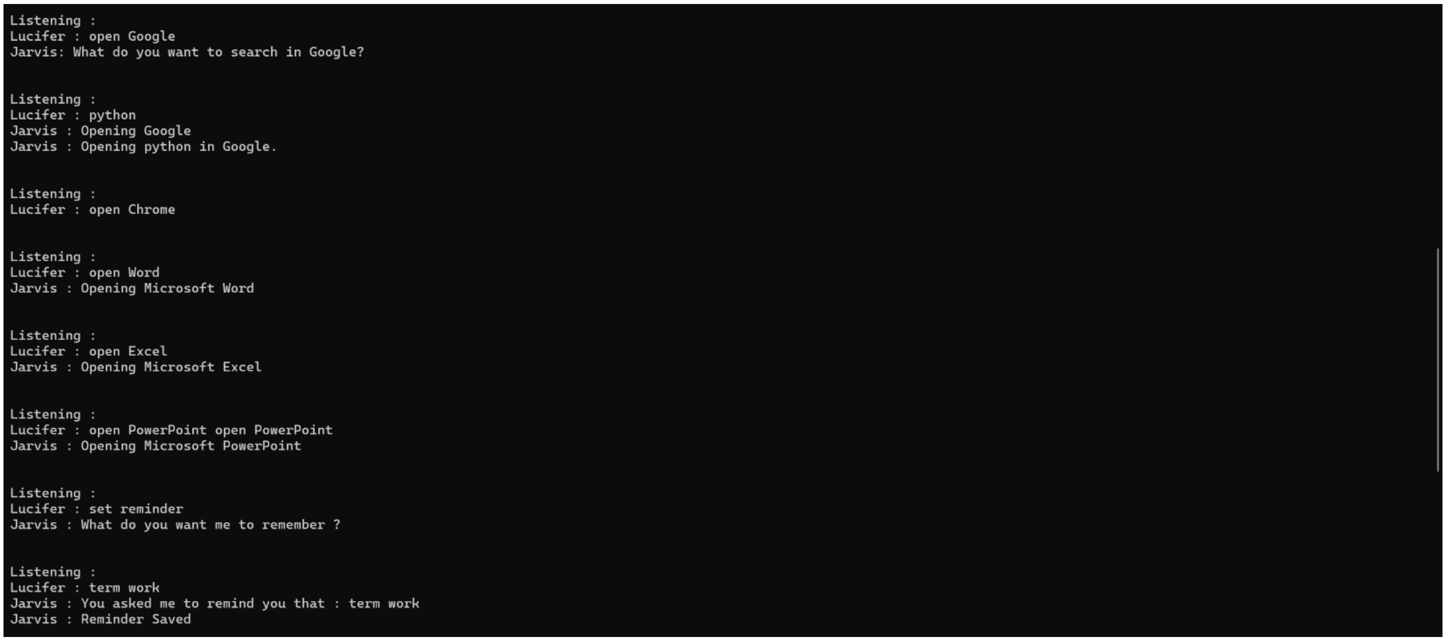
```
    rem_file.write(msg)
    rem_file.close()
    print("Jarvis : Reminder Saved")
    talk("Reminder Saved")

elif "show reminders" in text.lower():
    with open('reminder.txt', 'r') as rem_file:
        print("Jarvis: These Are Your Reminders")
        reminders = rem_file.read()
        print(reminders)
        talk("These Are Your Reminders: " + reminders)

elif "play music" in text.lower():
    print("Jarvis : Which song you want me to play?")
    talk("Which Song You Want me to play")
    song = get_Audio()
    print("Jarvis : Playing " + song)
    talk("Playing " + song)
    pywhatkit.playonyt(song)

elif "take notes" in text.lower():
    print("Jarvis : Tell Me  ")
    talk("Tell Me")
    msg = get_Audio()
    notes_file = open('notes.txt','a')
    notes_file.write(msg)
    notes_file.close()
    print("Jarvis : Notes Saved")
    talk("Notes Saved")

elif "show notes" in text.lower():
    print("Jarvis : Here Are Your Notes  ")
    talk("Here Are Your Notes")
    notes_file = open('notes.txt','r')
    notes = notes_file.read()
    print(notes)
    notes_file.close()

# Exit the program
```

```
        elif "exit" in text.lower():
            print("Jarvis : Goodbye!")
            talk("Goodbye!")
            break

    except:
        talk("I don't know that")
```

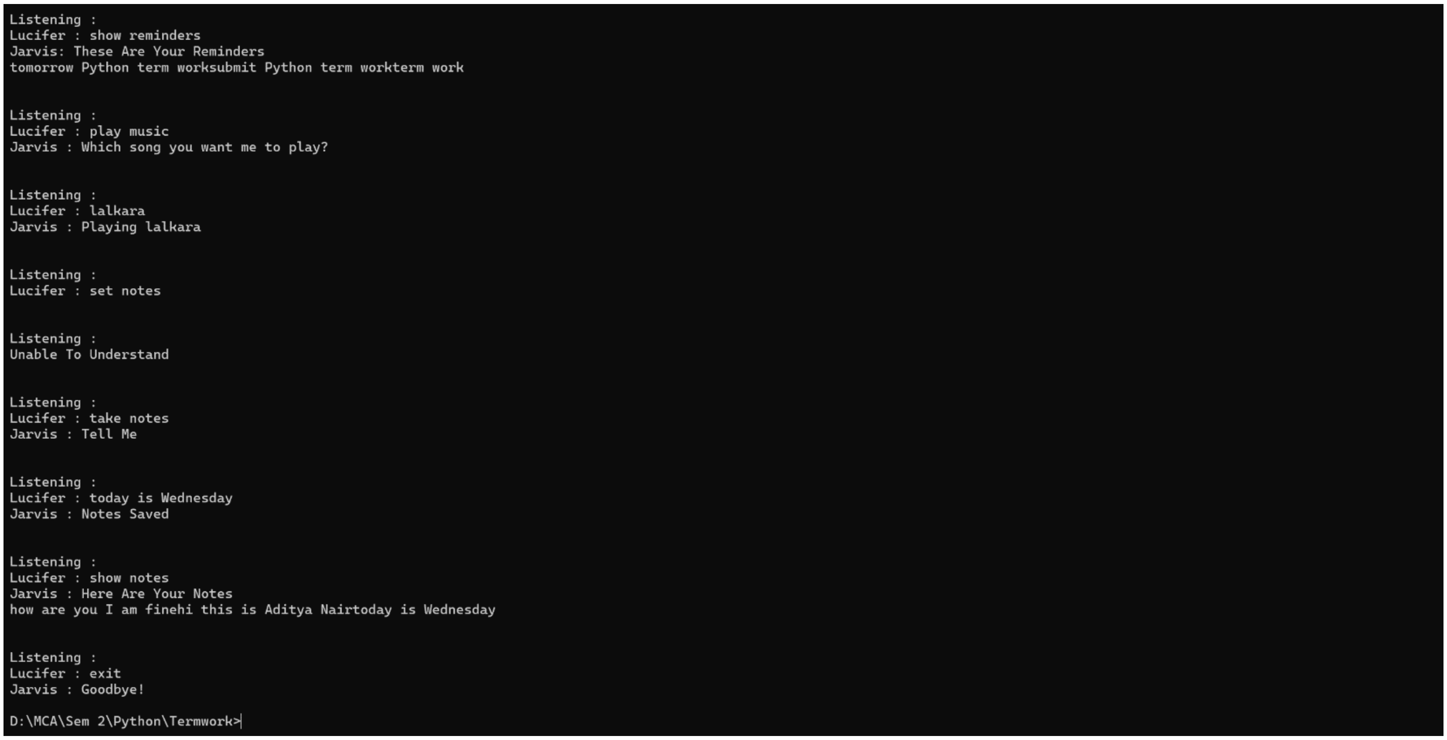
Output



```
D:\MCA\Sem 2\Python\Termwork>python virtual_assistant.py
Jarvis : Hello Lucifer


Listening :
Lucifer : date
Jarvis : Today is Wednesday,May ,1.


Listening :
Lucifer : time
Jarvis : the time is 7 9 p m


Listening :
Lucifer : search Wikipedia
Jarvis : What do you want to search in wikipedia ?


Listening :
Lucifer : who is Albert Einstein
Jarvis : Albert Einstein ( EYEN-styne; German: [ˈalbɛʁt ˈʔaɪnʃtaɪn] ; 14 March 1879 – 18 April 1955) was a German-born theoretical physicist who is widely held to be one of the gr
eatest and most influential scientists of all time. Best known for developing the theory of relativity, Einstein also made important contributions to quantum mechanics, and was th
us a central figure in the revolutionary reshaping of the scientific understanding of nature that modern physics accomplished in the first decades of the twentieth century.


Listening :
Lucifer : open YouTube
Jarvis : Opening Youtube
```



```
Listening :
Lucifer : open Google
Jarvis: What do you want to search in Google?


Listening :
Lucifer : python
Jarvis : Opening Google
Jarvis : Opening python in Google.


Listening :
Lucifer : open Chrome


Listening :
Lucifer : open Word
Jarvis : Opening Microsoft Word


Listening :
Lucifer : open Excel
Jarvis : Opening Microsoft Excel


Listening :
Lucifer : open PowerPoint open PowerPoint
Jarvis : Opening Microsoft PowerPoint


Listening :
Lucifer : set reminder
Jarvis : What do you want me to remember ?


Listening :
Lucifer : term work
Jarvis : You asked me to remind you that : term work
Jarvis : Reminder Saved
```



```
Listening :
Lucifer : show reminders
Jarvis: These Are Your Reminders
tomorrow Python term worksubmit Python term workterm work


Listening :
Lucifer : play music
Jarvis : Which song you want me to play?


Listening :
Lucifer : lalkara
Jarvis : Playing lalkara


Listening :
Lucifer : set notes


Listening :
Unable To Understand


Listening :
Lucifer : take notes
Jarvis : Tell Me


Listening :
Lucifer : today is Wednesday
Jarvis : Notes Saved


Listening :
Lucifer : show notes
Jarvis : Here Are Your Notes
how are you I am finehi this is Aditya Nairtoday is Wednesday


Listening :
Lucifer : exit
Jarvis : Goodbye!

D:\MCA\Sem 2\Python\Termwork>
```