1. Development Environment Setup

First, we have to install Python and VS Code on our system.

After installing both, we have to add the Python extension to VSCode.

2. Text to Speech

We must install the package pyttsx3, which stands for Python text to speech 3.

Pip install pyttsx3

```
import pyttsx3 #pip install pyttsx3 == text data into speech using python

engine = pyttsx3.init()
engine.say("Hello, this is Jarvis")
engine.runAndWait()
```

3. Speak Function

```
import pyttsx3 #pip install pyttsx3 == text data into speech using python

engine = pyttsx3.init()

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

while True:
    audio = input("Enter the text to convert it into speech\n")
    speak(audio)
```

4. Voices

```
import pyttsx3 #pip install pyttsx3 == text data into speech using python

engine = pyttsx3.init()

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

def getvoices(voice):
    voices = engine.getProperty('voices')
#    print(voices[1].id)
    if voice == 1:
        engine.setProperty('voice', voices[0].id)

    if voice == 2:
        engine.setProperty('voice', voices[1].id)

    speak("hello this is jarvis")

while True:
    voice = int(input("Press 1 for male voice\nPress 2 for female voice\n"))
#    speak(audio)
    getvoices(voice)
```

5. Time date function

```
import datetime
```

```
def time():
    Time = datetime.datetime.now().strftime("%I:%M:%S") #hour = I minutes = M seconds = S
    speak("the current time is")
    speak(Time)

def date():
    year = int(datetime.datetime.now().year)
    month = int(datetime.datetime.now().month)
    date = int(datetime.datetime.now().day)
    speak("the current date is")
    speak(date)
    speak(month)
    speak(year)
time()
date()
```

Greeting and Wish me Function

```
def greeting():
    hour = datetime.datetime.now().hour
    if hour >=6 and hour <12:
        speak("good morning sir")
    elif hour >=12 and hour <18:
        speak("good afternoon sir")
    elif hour >=18 and hour < 24:
        speak ("good evening sir")
    else:
        speak("good Night sir")

def wishme():
    speak("welcome back sir!")
    time()
    date()
    greeting()
    speak("jarvis at your service, please tell me how can i help you")
```

6. whatsapp

```
import pyautogui
import webbrowser as wb
from time import sleep
```

```
def sendwhatsmsg(phone_no, message):
    Message = message
    wb.open('https://web.whatsapp.com/send?phone='+phone_no+'&text='+Message)
    sleep(20)
    pyautogui.press('enter')
```

in main function

add elif statement

```
elif 'message' in query:
                user_name = {
                    'home': '+91 88974 54949'
                }
                try:
                    speak("To whom you want to send the whats app message?")
                    name = takeCommandMic()
                    phone_no = user_name[name]
                    speak("what is the message?")
                    message = takeCommandMic()
                    sendwhatsmsg(phone_no,message)
                    speak("message has been send")
                except Exception as e:
                    print(e)
                    speak("unable to send message")
```

7. Wikipedia

```
import wikipedia
```

in main block add elf statement

```
        elif 'wikipedia' in query:
            speak('searching on wikipedia...')
            query = query.replace("wikipedia", "")
            result = wikipedia.summary(query, sentences = 2)
            print(result)
            speak(result)
```

8. Search Google

```
def searchgoogle():
    speak(' what should i search for?')
    search = takeCommandMic()
    wb.open('http://www.google.com/search?q='+search)
```

in main block add elif statement

```
        elif 'wikipedia' in query:
            speak('searching on wikipedia...')
            query = query.replace("wikipedia", "")
            result = wikipedia.summary(query, sentences = 2)
            print(result)
            speak(result)
```

9. YouTube

```
import pywhatkit
```

in main block add elif statement

```
            elif 'youtube' in query:
                speak('what should i search for on youtube?')
                topic = takeCommandMic()
                pywhatkit.playonyt(topic)
```

10. Weather Updates

```
'https://api.openweathermap.org/data/2.5/weather?q={city Name}&units=imperial&appid={API KEY}
```

```
https://api.openweathermap.org/data/2.5/weather?q=vijayawada&units-imperial&appid=171d6f6ee89d70ce7299596ed4da3a42
```

open weathe api in google search and signup

generate api key

and add elif statement

```
elif 'weather' in query:
                city = 'vijayawada'
                url = f'https://api.openweathermap.org/data/2.5/weather?q={city}&units-
imperial&appid=8bd6e55cf83885ade305620f6459c4ca'

                res = requests.get(url)
                data = res.json()

                weather = data['weather'] [0] ['main']
                temp = data['main']['temp']
                desp = data['weather'][0]['description']
                temp = round(temp - 273.15)
                print(weather)
                print(temp)
                print(desp)
                speak(f'weather in {city} city is like')
                speak('Temperature : {} degree celcius'.format(temp))
                speak('climate is {}'.format(desp))
```

11. News Update

To create this function, we have first generated api in News API in browser
Install newsapi library (pip install newsapi)

```
from newsapi import NewsApiClient
```

```
def news():
    newsapi = NewsApiClient(api_key='3e2a41485f6b4b75a7f1f7e672ddefa3')
    speak('what topic you need the news about?')
    topic = takeCommandMic()
    data = newsapi.get_top_headlines(q=topic,
                                     language='en',
                                     page_size=5)
    newsdata = data['articles']
    for x,y in enumerate(newsdata):
        print(f'{x}{y["description"]}')
        speak((f'{x}{y["description"]}'))
```

after this add elif statement

```
        elif'news' in query:
                news()
```

12. Read selected text Function

We are using clipboard library to read selected text
We have to install this library (pip install clipboard)

```
import clipboard
```

```
def text2speech():
    text = clipboard.paste()
    print(text)
    speak(text)
```

```
elif 'read' in query:
                text2speech()
```

13. Covid 19

14. Open Applications/Folder Function

we have to import os library (pip install os)

```
import os
```

to open vs code

add elif statement

```
        elif 'open code' in query:
            codepath = 'C:\\Users\\rajes\\AppData\\Local\\Programs\\Microsoft VS Code\\Code.exe'
            os.startfile(codepath)
```

to open folder like downloads

add elif statement as above by changing path

```
        elif 'open download' in query:
            downloadpath = 'C:\\Users\\rajes\\Downloads'
            os.startfile(downloadpath)
```

15. Jokes Function

For joke function we have import library pyjokes (pip install pyjokes)

```
import pyjokes
```

add elif statement

```
        elif 'joke' in query:
            speak(pyjokes.get_jokes())
```

16. Screenshot function

To create this function we have to import time library as tt

```
import time as tt
```

```
def screenshot():
    name_img = tt.time()
    name_img =
f'C:\\Users\\rajes\\Desktop\\Project\\AI\\screenshots\\{name_img}.png'
    img = pyautogui.screenshot(name_img)
    img.show()
```

now add elif statement

```
        elif 'screenshot' in query:
            screenshot()
```

17. Remember Function

Add elif statement

```
        elif 'remember' in query:
            speak("what should i remember?")
            data = takeCommandMic()
            speak("you said me to remember that"+data)
            remember = open('data.txt','w')
            remember.write(data)
            remember.close()

        elif 'do you know anything' in query:
            remember = open('data.txt','r')
            speak("you told me to remember that "+remember.read())
```

18. Password Generator

We have to import two libraries string and random

```
import string
import random
```

```
def passwordgen():
    s1 = string.ascii_uppercase
    s2 = string.ascii_lowercase
    s3 = string.digits
    s4 = string.punctuation

    passlen = 10
    s =[]
    s.extend(list(s1))
    s.extend(list(s2))
    s.extend(list(s3))
    s.extend(list(s4))

    random.shuffle(s)
    newpass = ("".join(s[0:passlen]))
    print(newpass)
    speak(newpass)
```

add elif statement

```
            elif 'password' in query:
                passwordgen()
```

19. Jarvis UI

I'm not using Python to add UI; I've tried TK and PITQ5, but they're not realistic.

To add UI, I utilised wallpaper engine.

20. Add External Jarvis Voice

Using ivona text to speech voices, we may add external ai voices.

You may alter the voice id in code after installing voices on the system.

Flip a Coin

```
def flip():
    speak("okay sir, flipping a coin")
    coin = ['heads','tails']
    toss = []
    toss.extend(coin)
    random.shuffle(toss)
    toss = ("".join(toss[0]))
    speak("i flipped the coin an you got"+toss)
```

```
        elif 'flip' in query:
            flip()
```

Roll a Dice

```
def roll():
    speak('okay sir, rolling a die for you')
    die = ['1','2','3','4','5','6']
    roll = []
    roll.extend(die)
    random.shuffle(roll)
    roll = ("".join(roll[0]))
    speak("i rolled a die for you and you got"+roll)
```

```
        elif 'roll' in query:
            roll()
```

CPU & Battery Usage

We have to install the library call psutil

```
import psutil #pip install psutil
```

```
def cpu():
    usuage = str(psutil.cpu_percent())
    speak('CPU is at'+ usuage)
    battery = psutil.sensors_battery()
    speak("Battery is at")
    speak(battery.percent)
```

```
        elif 'cpu' in query:
            cpu()
```

Wake Word Detection

This requires the installation of NLTK.

Search Google for NLTK; documentation is accessible.

Run the file test.py to install NLTK packages.

After that, execute the file test2.py to see if the NLTK packages are installed.

Then, open our main Jarvis.py code.

Also, import the nltk package.

```
from nltk.tokenize import word_tokenize
```

Then, return to the main function statement and make some modifications by include the wake word function.

```
if __name__=="__main__":
    getvoices(2)
    #wishme()
    wakeword = "Jarvis"
    while True:
        query = takeCommandMic().lower()
        query = word_tokenize(query)
        print(query)
        if wakeword in query:
```