Python Code (Voice Assistnt+Desktop Commans+Arduino Control)

import pyttsx3

import speech\_recognition as sr

import datetime

import webbrowser

import os

import smtplib

import serial

# Initialize text-to-speech engine

engine = pyttsx3.init()

# Arduino Serial Port (Change COM port as per your system)

try:

arduino = serial.Serial('COM3', 9600) # Windows

except:

arduino = None

def speak(text):

engine.say(text)

engine.runAndWait()

def wish\_user():

hour = int(datetime.datetime.now().hour)

if hour < 12:

speak("Good Morning!")

elif hour < 18:

speak("Good Afternoon!")

else:

speak("Good Evening!")

speak("I am Jarvis. How can I help you?")

def take\_command():

r = sr.Recognizer()

with sr.Microphone() as source:

print("Listening...")

r.pause\_threshold = 1

audio = r.listen(source)

try:

print("Recognizing...")

query = r.recognize\_google(audio, language='en-in')

print(f"You said: {query}\n")

except:

print("Please say that again...")

return "None"

return query.lower()

def send\_email(to, content):

server = smtplib.SMTP('smtp.gmail.com', 587)

server.starttls()

server.login('youremail@gmail.com', 'yourpassword') # Change credentials

server.sendmail('youremail@gmail.com', to, content)

server.close()

def control\_arduino(command):

if arduino is not None:

if 'light on' in command:

arduino.write(b'1')

speak("Light turned on")

elif 'light off' in command:

arduino.write(b'0')

speak("Light turned off")

if \_name\_ == "\_main\_":

wish\_user()

while True:

query = take\_command()

# Exit Command

if 'exit' in query or 'quit' in query:

speak("Goodbye!")

break

# Web Search

elif 'open youtube' in query:

webbrowser.open("youtube.com")

elif 'open google' in query:

webbrowser.open("google.com")

# Desktop Tasks

elif 'play music' in query:

music\_dir = "C:\\Music" # Change path

songs = os.listdir(music\_dir)

os.startfile(os.path.join(music\_dir, songs[0]))

elif 'time' in query:

strTime = datetime.datetime.now().strftime("%H:%M:%S")

speak(f"The time is {strTime}")

# Email

elif 'email' in query:

try:

speak("What should I say?")

content = take\_command()

to = "receiver@gmail.com" # Change receiver

send\_email(to, content)

speak("Email has been sent")

except:

speak("Sorry, I could not send the email.")

# Arduino Home Automation

elif 'light on' in query or 'light off' in query:

control\_arduino(query)

**Arduino Code(Relay Control for Home Appliances)**

int relayPin = 7;

void setup() {

pinMode(relayPin, OUTPUT);

Serial.begin(9600);

}

void loop() {

if (Serial.available()) {

char command = Serial.read();

if (command == '1') {

digitalWrite(relayPin, HIGH); // Light ON

}

if (command == '0') {

digitalWrite(relayPin, LOW); // Light OFF

}

}

}

**JARVIS AI DESKTOP VOICE ASSISTANT- HARDWARE SETUP, SYSTEM FLOW AND OUTPUT RESULTS.**

