Speech Recognition

First install

pip install speechRecognition 🡪 for speechRecogntion

pip install pyaudio 🡪 for install libraries related to usage of microphone

To perform speech recognition using the recognize\_google() method in Python, follow these steps:

1. **Install SpeechRecognition**: First, make sure you have the SpeechRecognition library installed. If not, you can install it using pip:
2. pip install SpeechRecognition
3. **Create an AudioData Object**: You’ll need an audio file or audio data to recognize. You can create an AudioData object from an audio file or capture audio from a microphone.
4. **Use the Recognizer Class**: Create an instance of the Recognizer class from the speech\_recognition module. This class provides methods for recognizing speech.
5. **Invoke**recognize\_google(): Use the recognize\_google() method on your Recognizer instance to access the Google Web Speech API. This method converts spoken language into text. Pass the AudioData object as an argument to this method.

Here’s a simple example:

**Python**

import speech\_recognition as sr

# Create a Recognizer instance

recognizer = sr.Recognizer()

# Load an audio file (replace 'your\_audio\_file.wav' with your actual file)

with sr.AudioFile('your\_audio\_file.wav') as source:

audio\_data = recognizer.record(source)

# Perform speech recognition using Google Web Speech API

try:

recognized\_text = recognizer.recognize\_google(audio\_data)

print(f"Recognized text: {recognized\_text}")

except sr.UnknownValueError:

print("Could not understand audio")

except sr.RequestError as e:

print(f"Error accessing Google Web Speech API: {e}")

AI-generated code. Review and use carefully. [More info on FAQ](https://www.bing.com/new#faq).

Remember to replace 'your\_audio\_file.wav' with the actual path to your audio file. If you’re capturing audio from a microphone, use the listen() method instead of loading an audio file.

Feel free to adapt this example to your specific use case! 🎙️🔍

For more details and additional resources, you can refer to the [Real Python tutorial on speech recognition](https://realpython.com/python-speech-recognition/)[.](https://realpython.com/python-speech-recognition/)

import speech\_recognition as spreg

from datetime import datetime

import dbm,time,os

timestamp=datetime.now().strftime("%Y%m%d%H%M%S")

def speechToText():

    recognition=spreg.Recognizer()

    with spreg.Microphone() as source:

        time.sleep(.2)

        recognition.adjust\_for\_ambient\_noise(source)

        print("Please say something")

        audio=recognition.listen(source)

        while True:

            os.system("cls")

            try:

                speechText=recognition.recognize\_google(audio)

                print(f"You've said,\n{speechText}")

                break

            except Exception as e:

                print(f"Please try again; I am unable to recognize what you have said.{str(e)}")

                continue

            time.sleep(1.5)

def audioFile():

   recognition= spreg.Recognizer()

   with spreg.Microphone() as source:

       time.sleep(.2)

       recognition.adjust\_for\_ambient\_noise(source)

       print("Please say something..." )

       audio=recognition.listen(source)

       print("Recognising speech")

       try:

           speechText=recognition.recognize\_google(audio)

           print(f"You have said\n{speechText}")

       except Exception as e:

        print(f"Please try again; I am unable to recognize what you have said.{str(e)}")

        time.sleep(1.5)

        os.system("cls")

       file=open(f"recorded{timestamp}.wav", "wb")

       file.write(audio.get\_wav\_data())

       print("Audio recorded")

def audioFileToText():

    sound="recording.wav"

    recognition=spreg.Recognizer()

    with spreg.AudioFile(sound) as source:

        recognition.adjust\_for\_ambient\_noise(source)

        print("Converting Audio File to Text")

        audio=recognition.listen(source)

        try:

            print(f"Converted Audio Is: \n{recognition.recognize\_google(audio)}")

        except:

            print("Try again, unable to recognize your voice")

audioFile()