Lesson 22 (Topic 6 , lesson 2) report :

For this assignment, I can't use any function from Azure because of some problems
So, for now, I will use the speech_recognition library from Python for the assignment.

In the code, I also use another library like pyttsx3 or text-to-speech (extra stuff)

Important function codes:

For this function, it will take the voice audio from your microphone and output what you just said

```python
def get_voice_command(prompt="What timer do you want to set?"):
    with sr.Microphone() as source:
        print(prompt)
        speak(prompt)
        audio = recognizer.listen(source)

    try:
        command = recognizer.recognize_google(audio)
        print(f"You said: {command}")
        return command.lower()
    except sr.UnknownValueError:
        speak("Sorry, I didn't catch that.")
        return ""
```

Function for the timer (code executes when the timer runs out)

```python
def run_timer(duration):
    speak(f"Timer started for {duration} seconds.")
    start_time = time.time()
    while time.time() - start_time < duration:
        if stop_flag.is_set():
            speak("Timer has been stopped.")
            print("Timer was manually stopped.")
            return
        time.sleep(1)
    speak("Time's up! Executing your command.")
    print("Timer finished. Running command...")
    # Replace this with your custom command
    print(">> Your command goes here.")
```

Cancel time when I say "stop."

```python
def listen_for_stop():
    while not stop_flag.is_set():
        # Modified to avoid continuous prompting
        print("Say 'stop' to cancel.")
        with sr.Microphone() as source:
            try:
                audio = recognizer.listen(source, timeout=5, phrase_time_limit=3)
                command = recognizer.recognize_google(audio).lower()
                print(f"You said: {command}")
                if "stop" in command:
                    stop_flag.set()
                    print("Stop command received. Stopping the timer.")
                    return
```

Here is the output :

```
What timer do you want to set?
You said: timer 10 seconds
Say 'stop' to cancel.
You said: started for 10 seconds
Say 'stop' to cancel.
Say 'stop' to cancel.
You said: stop
Stop command received. Stopping the timer.
```

A video example will be given in the assignment file.