



Name: _____

Assessment Speech Command

- 1) Which of the following is an example of a sensor that a robot can use?
 - a) Light bulb
 - b) Microphone
 - c) Battery
 - d) Screwdriver

- 2) In the context of AI, what does it mean for a machine to "perceive" its environment, and why is this ability important?
 - a) It allows the machine to store data without human help.
 - b) It gives the machine the power to perform physical tasks faster.
 - c) It ensures the machine can operate independently without any sensors.
 - d) It enables the machine to collect and understand sensory information to make decisions.

- 3) Why is it important for a robot with AI to have a model that has been trained on specific words?
 - a) The model helps the robot understand and respond to specific commands accurately.
 - b) The model allows the robot to create new words on its own.
 - c) The model ensures the robot can only respond to visual signals.
 - d) The model is used to store the robot's battery information.

- 4) What happens when the AI model detects the word "go"?
 - a) The red LED turns on
 - b) The program stops running
 - c) The microphone is turned off
 - d) The green LED blinks, and the fabricator starts

- 5) Why is the confidence level of 90% important for the AI model?
 - a) It ensures the AI model never makes a mistake
 - b) It makes the AI model slower but more accurate
 - c) It allows the AI model to be flexible in recognizing words
 - d) It only works with the word "stop"

- 6) Imagine you are designing a robot to help older adults in their homes. How could AI and sensors be used to make the robot helpful and safe? Explain your ideas.



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7) AI is used in many everyday devices, like smartphones and cars. Can you think of a new way for someone to use AI on a device or tool you use daily? Describe how it would work and why it would be helpful.

8) Look at the Python code you created. Right now, the code listens for the words "go" and "stop" to turn on the green and red LEDs. How could you change the code so that the green LED blinks three times quickly when you say "go" instead of just blinking once? Try writing the new code to make this happen.



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Answer Key Speech Command

- 1) B - Microphone
- 2) D - It enables the machine to collect and understand sensory information to make decisions.
- 3) A - The model helps the robot understand and respond to specific commands accurately.
- 4) D - The green LED blinks, and the fabricator starts
- 5) C - It allows the AI model to be flexible in recognizing words
- 6) *Example:* AI could be used in the robot to recognize when the older adult needs help, such as detecting a fall or hearing a call for assistance. Sensors like cameras could help the robot see obstacles and avoid them, while microphones could allow it to respond to voice commands. The AI could learn the person's daily routine to provide medication reminders or alert emergency services if something seems wrong.
- 7) *Example:* AI could be used in a smart backpack that recognizes what items I need for school each day. It could have sensors that detect if I forgot to pack my notebook or lunch. The AI could learn my schedule and remind me to pack specific items, like gym clothes, on days I have PE. This would be helpful because it would ensure I'm always prepared for school and never forget essential items.
- 8) *Example:* To make the green LED blink three times quickly when the word "go" is heard, we can modify the code by adding a loop that repeats the blink three times.

```
if myword == 'go':  
    for i in range(3): # Loop 3 times  
        GP15.setPin(1)  
        time.sleep(0.2) # Shorter sleep time for a quick blink  
        GP15.setPin(0)  
        time.sleep(0.2) # Shorter sleep time before the next blink
```

Explanation:

This new code will make the green LED blink on and off three times quickly whenever "go" is detected.