Name: _____

Use this quiz to help make sure you understand the videos/reading. ***Answer all questions.*** Make additional notes as desired. ***Not sure of an answer?*** Ask your instructor to explain in class.

Video: ***The Create Robot*** [7:17 minutes]

1. Give an example of a ***human effector***:

2. Give an example of a ***robot effector***:

3. Give an example of a ***human actuator***:

4. Give an example of a ***robot actuator***:

5. Give an example of a ***human sensor***:

6. Give an example of a ***robot sensor***:

7. Give an example of a ***human controller***:

8. Give an example of a ***robot controller***: [Answer: It's the robot's processor.]

9. The Create has ***touch sensors*** in the ***front*** of the robot. **Yes** **No** (circle your choice)

10. The Create has ***touch sensors*** in the ***back*** of the robot. **Yes** **No** (circle your choice)

11. The Create has ***buttons*** that can sense when they are pressed. **Yes** **No** (circle your choice)

12. The Create has ***infrared sensors*** on its underbody that shine light down and measure how much is reflected back up. We can use those sensors to:

13. The Create has a ***passive infrared sensor*** on its top. What does ***passive*** mean here?

14. What do the ***wheel encoders*** tell you?

15. In the way that we will use the Create, when we run robot commands for the Create, those commands start in the Python program running on your laptop. **Yes** **No** (circle your choice)

16. Those Python commands are translated to commands in the language native to the Create robot, then sent via Bluetooth to a Bluetooth receiver on the Create robot, and then the Bluetooth receiver sends the commands to the Create's hardware to be executed on the Create. **Yes** **No** (circle your choice) [Hint: the answer is *Yes*.]

Video: ***Your First Robot Program*** [2:34 minutes]

17. Write a complete ***main*** function that constructs a ***Create*** object (assume that the COM port number is 4), makes that robot go backward (just backward, no spin) at 30 cm/second for 2.5 seconds, then prints the distance the robot traveled.

Reading: ***If statements***

18. Consider the following line of code, and add code after it that prints "Banana!" if the user inputs a number bigger than 20: [Hint: Just use an ***if*** statement here – no ***elif*** or ***else***.]

```
n = int(input('Enter an integer: '))
```

19. Consider the following line of code, and add code after it that:

    - prints "first!" if the first number that the user enters is bigger than the second number that the user enters,
    - prints "second"! if the reverse is true, and
    - prints "tie!" if the two numbers are the same.

```
a = int(input('Enter an integer: '))
b = int(input('Enter a second integer: '))
```

20. Same as the previous question, but don't print anything at all in the case that the two numbers are the same. [Hint: You don't have to have an ***else*** clause if the logic of the problem does not demand it.]

21. Consider versions 1 and 2 below.

Version 1:

```
if x > y:
    print('good')
else:
    print('bad')
```

Version 2:

```
if x > y:
    print('good')
if x <= y:
    print('bad')
```

True or ***False***: Versions 1 and 2 are equivalent in their effect – that is, if Version 1 is given an x and y and Version 2 is given the same x and y, then they both print the same thing. **True** **False** (circle your choice)

22. Which of the above Versions runs faster? (Circle your choice)

Version 1 Version 2 Neither (they run equally fast)

23. Which of the above Versions is better? (Circle your choice)

Version 1 Version 2 Neither (they are equally good)