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 Wait-Until-Event Pattern*** [7:34 minutes]

1. Write (to the right) a ***definite loop (using a `for` statement)*** that prints the numbers 1 through 1000, inclusive.

2. One of the following is the ***Definite Loop*** pattern and one is the ***Wait-Until-Event*** pattern. Draw arrows from the phrases to the patterns to indicate which is which.

***Wait-Until-Event* pattern** ***Definite Loop* pattern**

```
Run n times:
    ...
    ...
```

```
Repeatedly:
    ...
    Has the event occurred?
    If so, break out of the loop.
    ...
```

3. Explain the role of the "sentinel" value in the *wait-until-event* pattern, when getting input from a user.

4. Write (to the right) an ***indefinite loop (using a `while` statement)*** that prints the integers 1 through 1000, inclusive. (This problem would be better solved with a ***`for`*** statement, but I am asking you to use a ***`while`*** statement here so that you can practice ***`while`*** statements.)

5. Write (to the right) an ***indefinite loop (using a `while` statement)*** that prints integers starting at 100,000 and stopping when it encounters an integer whose cosine is less than **`-0.999`**. Do NOT print the integer whose cosine is less than **`-0.999`**.

6. How would you need to modify the previous problem if you were supposed to print the integer whose cosine is less than -0.999 (but still stop the loop after doing so)?

Video: ***The Create Robot Library*** [2:34 minutes]

7. Write a complete ***main*** function that:
   - constructs a ***Create*** object (assume that the COM port number is 4),
   - prints the distance the robot has traveled (which should be zero at this point),
   - makes that robot go backward at 30 cm/second for 2.5 seconds,
   - prints the distance the robot traveled, then
   - shuts down the robot.

8. Write a function called ***go_distance*** that takes as a parameter a ***Create*** object and makes that robot go forward at 20 cm/second until the robot has gone a distance of 50 cm, ***using the following algorithm***:

   Start the robot moving at 20 cm/second.

   Repeatedly:

   Using the distance sensor, determine whether the robot has gone 50 cm or more yet. If so, break out of the loop.

   Stop the robot.