**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Arduino Posttest**

**Directions:** Write your first and last name in the blank above. Select the one best answer to each item by **circling** the **letter** of the answer.

1. An Arduino is a(n) \_\_\_. (1 pt.)

A. Programmable microcontroller

B. Read-only memory chip

C. External hard-drive

D. Basic input/output system (BIOS)

2. Arduino UNO \_\_\_ pins can only have a value of either 0 volts or 5 volts. (1 pt.)

A. Analog

B Digital

C. Ground (GND)

D. Power

3. Which of the following statements about Arduino UNO pins is true? (1 pt.)

A. Analog pins can only be configured as inputs

B All digital pins can be configured as either inputs or outputs

C. Digital pins can only be configured as outputs

D. All analog pins can be configured as either inputs or outputs

4. A resistor is placed in series with an LED in order to \_\_ (1 pt.)

A. Increase the voltage at the LED

B. Protect the LED from a short-circuit  
C. Limit current in the LED circuit to a safe level  
D. Protect the LED from a voltage surge

5. When an LED is placed in a circuit with its long lead (anode) toward the positive terminal and its short (cathode) lead toward the negative terminal , the LED is \_\_\_. (1 pt.)

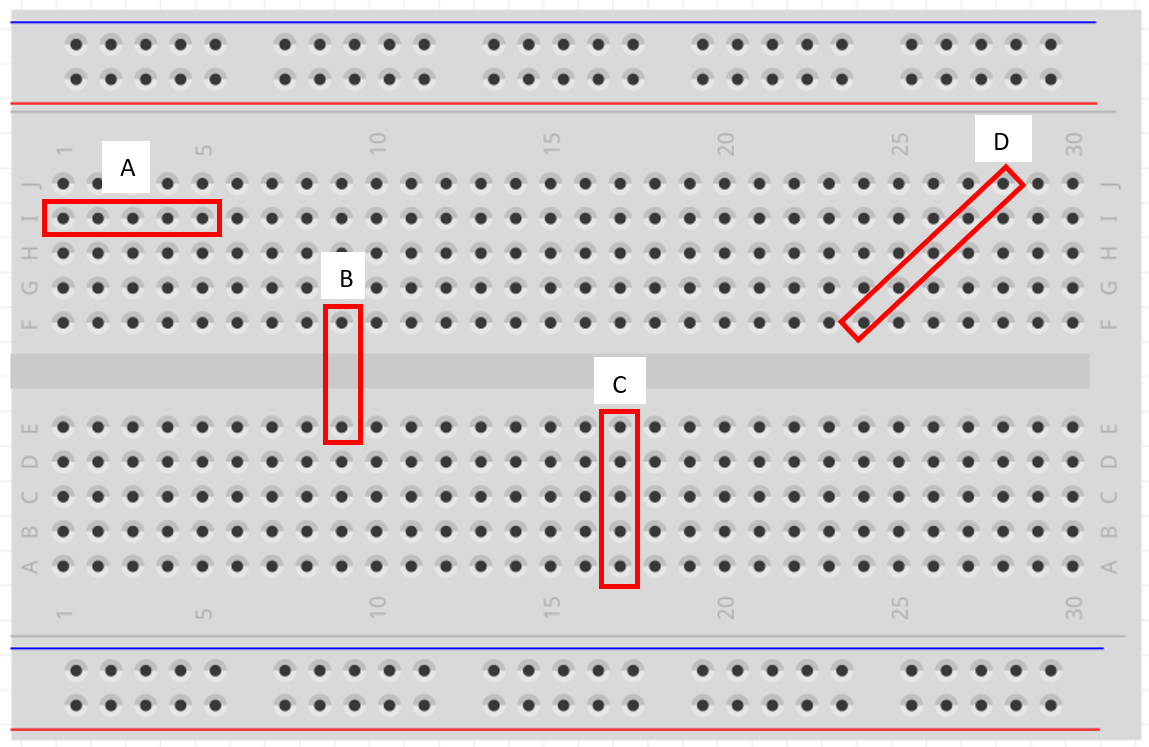
A. Un-biased

B. Dual-biased

C. Reverse-biased

D. Forward-biased

6. In the breadboard below, which red rectangle (A - D) outlines slots that are electrically connected to each other? (1 pt.)



A. Rectangle A

B. Rectangle B

C. Rectangle C

D. Rectangle D

7. Which of the following statements would be correct to include in the *void setup* function of an Arduino sketch?

A. delay(1500);

B. pinMode(4, OUTPUT);

C. digitalWrite(A4, HIGH);

D. digitalWrite(A4, LOW);

8. In an Arduino sketch (program) which of the following statements shows proper syntax to initialize pin 3 as an output?

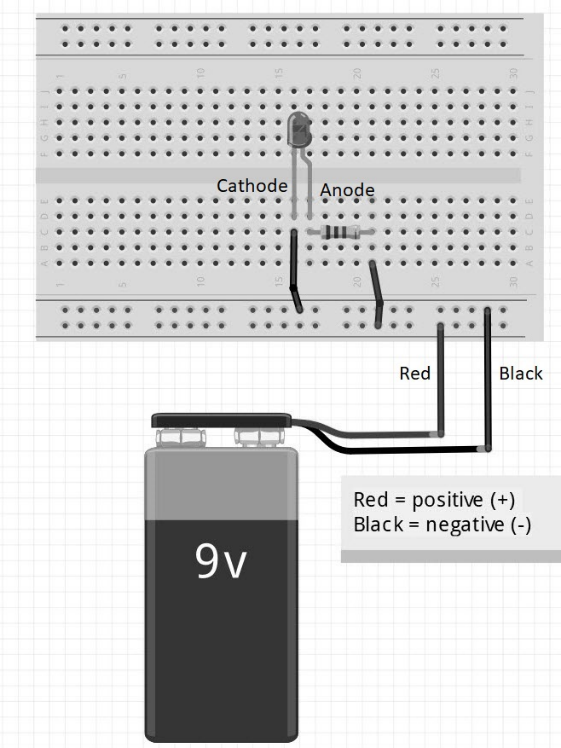
A. pinMode(3, OUTPUT);

B. Pinmode(3, Output);

C. pinmode(3, OUTPUT);

D. PinMode(3, output);

9. You have “breadboarded” the circuit below. With the battery connected as shown, which of the following is true? (1 pt.)



A. The LED will light up because there is a complete circuit

B. The LED will not light up because there is not a complete circuit

C. The LED will not light up because the LED is reverse-biased

D. The LED will not light up because the LED is forward-biased

10. In an Arduino sketch’s *void loop* function, which of the following would cause an LED attached to pin 5 to blink on and off once per second? (1 pt.)

|  |  |  |
| --- | --- | --- |
| A. digitalWrite(5, HIGH);  delay(500);  digitalWrite(5, LOW);  delay(500); |  | C. digitalWrite(5, HIGH);  delay(0.5);  digitalWrite(5, LOW);  delay(0.5); |
| B. digitalWrite(5, High);  delay(500);  digitalWrite(5, Low);  delay(500); |  | D. digitalWrite(5, High);  delay(0.5);  digitalWrite(5, Low);  delay(0.5); |

11. In the function below which of the following is true about the text to the right of the two forward slashes (//)? (1 pt.)

analogRead(A0); //Read the input pin

A. This is a “function” the program will read and execute

B. This is a “comment” the program will neither read nor execute

C. This is a “sub-routine” the program will read and execute

D. This is a “priority function” the program will execute before the “analogRead” function

12. What will happen after an ArduinoUNO executes the last statement (line) in the sketch (program) shown below?

void loop{} {

digitalWrite(7, HIGH);

delay(1000);

digitalWrite(7, LOW);

delay(1000);

}

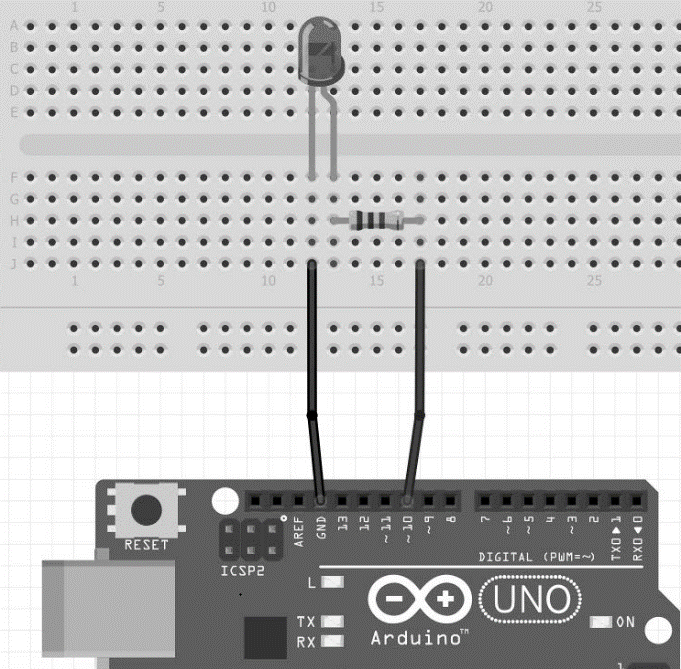
A. It will pause and await further program statements

B. It will execute all of the statements again, starting with the first statement

C. It will go into “power save” mode

D. It will switch “off”

13. In the circuit below, the Arduino UNO is to turn “on” the LED. Which of the following statements would be required in the *void loop* function of the Arduino sketch (program)?



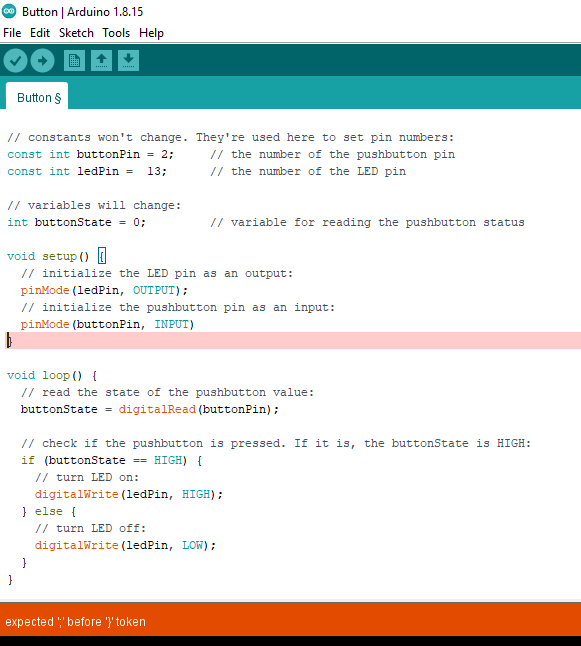
A. digitalWrite(GND, HIGH);

B. pinMode(10, OUTPUT);

C. pinMode(GRD, Output);

D. digitalWrite(10, HIGH);

14. You just compiled an Arduino sketch (program) and received the message shown at the bottom of the screen below. What does this message indicate?



A. The token ring adapter is not connected

B. There is an error in the sketch

C. The sketch has been uploaded and is ready to run

D. There is no connection between the Arduino UNO and the computer

15. Which of the following statements best describes your level of confidence that your answers on this posttest are correct?

A. I am not at all confident that my answers are correct

B. I am fairly confident that my answers are correct

C. I am extremely confident that my answers are correct