

Variables

Automatic Thresholds Quiz

NAME _____ DATE _____

1. The output of a sensor is always in the form of a:

- a. value.
 - b. decimal.
 - c. threshold.
 - d. frequency.
-

2. If we want to store a decimal value in a variable named `my_variable`, then the variable type we select should be a(n) _____.

3. What does it mean to “declare” a variable?

4. Cross out the names on the following list, which **cannot** be used as variable names.

- a. true
 - b. `my_variable`
 - c. `var1x`
 - d. ants go marching
 - e. `1_by_1`
 - f. `one_by_one`
 - g. motor
 - h. PB&J
-

5. Using the following bit of code, write a line of code that will calculate the value of a times b and store it in the variable “product”. What value will be in “product” after the line is run?

```
1 int a;  
2 int b;  
3 int product;  
4 a = 10;  
5 b = 100;  
6
```

Variables

6. In the space below, identify all the variables used in the Automatic Thresholds program, and briefly describe what each one does.

```

1  const tSensors touchSensor          = (tSensors) S1;
2  const tSensors lightSensor         = (tSensors) S2;
3
4  task main()
5  {
6    int lightValue;
7    int darkValue;
8    int sumValue;
9    int thresholdValue;
10 while (SensorValue(touchSensor) == 0)
11 {
12     nxtDisplayStringAt(0,31,"Read Light Now");
13 }
14 lightValue = SensorValue(lightSensor);
15 wait1Msec(1000);
16 while (SensorValue(touchSensor) == 0)
17 {
18     nxtDisplayStringAt(0,31,"Read Dark Now");
19 }
20 darkValue = SensorValue(lightSensor);
21 sumValue = lightValue + darkValue;
22 thresholdValue = sumValue/2;
23 ClearTimer(T1);
24 while (time1[T1] < 3000)
25 {
26     if (SensorValue(lightSensor) < thresholdValue)
27     {
28         motor[motorC] = 0;
29         motor[motorB] = 80;
30     }
31     else
32     {
33         motor[motorC] = 80;
34         motor[motorB] = 0;
35     }
36 }
37 motor[motorC] = 0;
38 motor[motorB] = 0;
39 }

```