

Sensing

Forward Until Dark Quiz

NAME _____ DATE _____

1. One reasonable way of finding a threshold for a light sensor would be to:
- use the output value of the LED.
 - sum up the high and low readings and then divide that by two.
 - use the high reading and subtract the distance traveled.
 - calculate the average of the ambient light in the room.
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2. What type of light does the NXT light sensor use?
- Reflected halogen light
 - LED
 - Neon light
 - Fluorescent light
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3. A high number reading from the light sensor could mean:
- the light sensor is seeing a dark surface which reflects a small amount of light.
 - the light sensor is seeing a dark surface which reflects no light.
 - the light sensor is seeing a light surface which reflects a large amount of light.
 - the light sensor was unable to detect either a light or dark surface and cannot make a consistent final reading.
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4. A standard behavior to move until the robot sees a dark line on a light surface looks like the following code. Writing directly on the code, change the program above to look for a white line on a dark surface instead (assume the threshold value stays the same).

```
1 while(SensorValue(lightSensor) > 45)
2 {
3     motor[motorC] = 75;
4     motor[motorB] = 75;
5 }
```

5. What does it mean when the Light Sensor is in "Active Mode"?
- It is actively generating its own light using the built-in emitter.
 - The light sensor is actively controlling the motors.
 - The light source is turned off, and the sensor is actively searching for outside light.
 - The light sensor is broken, and you need to actively find a replacement.