

Tutorial 4: Color Sensor

1. Setup: Set the color sensor in the Motor and Sensor Setup to Colour (Note the word Color cannot be used because of a conflict with the sensor name and comparison code). Be sure you place the name in the same port. See below for example. Color Sensor is set in Port 3.

Sensor Index	Name	Sensor Type	Sensor Mode
S1		No Sensor	Not Applicable
S2		No Sensor	Not Applicable
S3	Colour	Color (EV3)	Reflected
S4		No Sensor	Not Applicable

Type the following program.

```

1  #pragma config(Sensor, S3, Colour, sensorEV3_Color)
2  /**!!Code automatically generated by 'ROBOTC' configuration wizard    !**//
3
4  task main()
5  {
6    while (true) //While (true) makes the software run continuously until the off button is pressed on the robot)
7    {
8      // Write the amount of reflected light to the screen
9      // This is a value between 0 and 100, where 0 means no reflected
10     // light and 100 means all light is being reflected
11     displayBigTextLine(4, "Reflected: %d", SensorValue[Colour]);
12
13     // Wait 20 ms to get 50 readings per second
14     sleep(20);
15
16     if (SensorValue [Colour] >= 40) //NOTE: Comparison Value for SensorValue [Colour]
17         //      is based on the lighth reflected percentage
18     {
19         motor [motorB] = 0;
20         motor [motorC] = 0;
21         wait1Msec (10);
22     }
23
24     else
25     {
26         motor [motorB] = 15;
27         motor [motorC] = 15;
28     }
29 }
30 }

```

Program should do the following

When a color sensor light reflection is greater than 40 then the motors will stop. If light reflection is less than 40 than the motors will move. Note: Depending on the surface the comparison value may have to be adjusted.

2. Modify the program accordingly to work on your surface.

Edit/Modify the program for the surface that you are working on so the robot will not fall of the table.