

BE1200 - Fall 2009

Name: _____ Solution _____

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Quiz # 9 [25 minutes]

```
1 int max_angle, max_light;
2 task main()
3 {
4   SetSensor (SENSOR_1, SENSOR_ROTATION);
5   SetSensor (SENSOR_3, SENSOR_LIGHT);
6   calibrate();
7   while(true)
8   {
9     sweep_R();
10    sweep_L();
11  }
12 }
13 void calibrate()
14 {
15   OnRev(OUT_B); Wait(350); Off(OUT_B); ClearSensor(SENSOR_1);
16 }
17 void sweep_R()
18 {
19   max_light = 0;
20   start find_max;
21   OnFwd(OUT_B); until(SENSOR_1 == 110); // Sweep right
22   Off(OUT_B);
23   stop find_max;
24   SetUserDisplay (max_light, 0); Wait(150); // stop sweep and display max
25   SetUserDisplay (max_angle, 0); Wait(150);
26   SetUserDisplay (0, 0);
27 }
28 void sweep_L()
29 {
30   max_light = 0;
31   start find_max;
32   OnRev(OUT_B); until(SENSOR_1 == 0); // Sweep left
33   Off(OUT_B);
34   stop find_max;
35   SetUserDisplay (max_light, 0); Wait(150); // stop sweep and display max
36   SetUserDisplay (max_angle, 0); Wait(150);
37   SetUserDisplay (0, 0);
38 }
39 task find_max()
40 {
41   while(true)
42   {
43     if(SENSOR_3 > max_light)
44     {
45       max_light = SENSOR_3;
46       max_angle = SENSOR_1;
47     }
48   }
49 }
```