Coding Arduino Uno

```
#include <Servo.h>

//Initialize variables

int mode = 0;

int buttonState = 0;

int prevButtonState = 0;

int topLeftLight = 0;

int topRightLight = 0;

int bottomLeftLight = 0;

int bottomRightLight = 0;

int LeftLight = 0;

int RightLight = 0;

int TopLight = 0;

int BottomLight = 0;

//Declare two servos

Servo servo_9;

Servo servo_10;


void setup()

{
```

```
  pinMode(A1, INPUT);   //Light sensor up - left
  pinMode(A0, INPUT);   //Light sensor up - right
  pinMode(A3, INPUT);   //Light sensor bottom - left
  pinMode(A2, INPUT);   //Light sensor bottom - right
  servo_9.attach(11);    //Servo motor right - left movement
  servo_10.attach(9);  //Servo motor up - down movement
}

void loop()
{

    //Calculate the average light conditions
    TopLight = ((topRightLight + topLeftLight) / 2);
    BottomLight = ((bottomRightLight + bottomLeftLight) / 2);
    LeftLight = ((topLeftLight + bottomLeftLight) / 2);
    RightLight = ((topRightLight + bottomRightLight) / 2);
    //Rotate the servos if needed
    if (abs((RightLight - LeftLight)) > 10)
    {    //Change position only if light difference is bigger then 10%
      if (RightLight < LeftLight)
```

```
  {
    if (servo_9.read() < 180)
    {
      servo_9.write((servo_9.read() + 1));
    }
  }
  if (RightLight > LeftLight)
  {
    if (servo_9.read() > 0)
    {
      servo_9.write((servo_9.read() - 1));
    }
  }
  if (RightLight = LeftLight)
  {
    //nothing
  }
  delay (5);
}
```

```
if (abs((TopLight - BottomLight)) > 5)
{  //Change position only if light difference is bigger then 5%
  if (TopLight < BottomLight)
  {
    if (servo_10.read() < 180)
    {
      servo_10.write((servo_10.read() + 1));
    }
  }
  if (TopLight > BottomLight)
  {
    if (servo_10.read() > 0)
    {
      servo_10.write((servo_10.read() - 1));
    }
  }
  if (TopLight = BottomLight)
  {
    //nothing
  }
```

```
    delay (5);

  }

}
```