```
#include <Servo.h>
Servo myservo1; // initialize servo motors
Servo myservo2;
Servo myservo3;

int LDRr = A0; //ADC inputs
int LDRg = A1;
int LDRb = A2;

int red ;
int green ;
int blue ;

int r = 10;
int g = 9;
int b = 8;

int pos1 = 2;
int pos2=3;
int pos3 =4;


void setup() {
pinMode(r, OUTPUT);
pinMode(g, OUTPUT);
```

```
pinMode(b, OUTPUT);


pinMode(0, OUTPUT);
pinMode(1, OUTPUT);
pinMode(2, OUTPUT);
pinMode(3, OUTPUT);
pinMode(4, OUTPUT);
pinMode(5, OUTPUT);



myservo1.attach(2);
myservo2.attach(3);
myservo3.attach(4);

}

void loop() {


red = analogRead(LDRr);
green = analogRead(LDRg);
blue = analogRead(LDRb);


if ((red > green) and (red > blue))


{digitalWrite(r, HIGH); //LED Red indicator
```

```
//Arm picking process
//Arm lying down
//Motor 1
for (pos1 = 0; pos1 <= 180; pos1 += 1)
 { // goes from 0 degrees to 180 degrees
   // in steps of 1 degree
    myservo1.write(pos1);              // tell servo to go to position in variable 'pos1'
    }

//Motor 2
   for (pos2 = 0; pos2 <= 180; pos2 += 1)
   { // goes from 0 degrees to 180 degrees
    // in steps of 1 degree
    myservo2.write(pos2);              // tell servo to go to position in variable 'pos2'

   }

 //Motor 3
for (pos3 = 0; pos3 <= 180; pos3 += 1) {
  // goes from 0 degrees to 180 degrees
  // in steps of 1 degree
    myservo3.write(pos3);              // tell servo to go to position in variable 'pos3'

   }
```

```
delay(3000); //Wait 3 seconds after picking process
 //Arm lifiting up process
 //Motor 1
 for (pos1 = 180; pos1 >= 0; pos1 -= 1) {
  // goes from 180 degrees to 0 degrees
  //in steps of 1 degree
    myservo1.write(pos1);              // tell servo to go to position in variable 'pos1'


  }

//Motor 2
for (pos2 = 180; pos2 >= 0; pos2 -= 1) {
  // goes from 180 degrees to 0 degrees
  // in steps of 1 degree
    myservo2.write(pos2);              // tell servo to go to position in variable 'pos2'


  }

//Motor 3
for (pos3= 180; pos3 >= 0; pos3 -= 1) {
  // goes from 180 degrees to 0 degrees
  // in steps of 1 degree
    myservo3.write(pos3);              // tell servo to go to position in variable 'pos3'


  }
```

```
delay(2000); // Wait 2 seconds for lifiting up process
digitalWrite(5,HIGH); //Enable L293D driver

digitalWrite(0,HIGH); //Enable car motor to go forword
digitalWrite(1,LOW);

delay (4000); // Wait until the car reaches the specified container

digitalWrite(0,LOW); //Stop the car
digitalWrite(1,LOW);

delay(2000); //Wait 2 seconds for the car to stop

//Object releasing
//Arm lying down
//Motor 1
for (pos1 = 0; pos1 <= 180; pos1 += 1)
 { // goes from 0 degrees to 180 degrees
   // in steps of 1 degree
    myservo1.write(pos1);              // tell servo to go to position in variable 'pos1'
    }

//Motor 2
   for (pos2 = 0; pos2 <= 180; pos2 += 1)
   { // goes from 0 degrees to 180 degrees
```

```
   // in steps of 1 degree
    myservo2.write(pos2);              // tell servo to go to position in variable 'pos2'


  }


 //Motor 3
for (pos3 = 0; pos3 <= 180; pos3 += 1) {
  // goes from 0 degrees to 180 degrees
  // in steps of 1 degree
    myservo3.write(pos3);              // tell servo to go to position in variable 'pos3'


  }
delay(3000); //Wait 3 seconds after picking process
 //Arm lifiting up process
 //Motor 1
 for (pos1 = 180; pos1 >= 0; pos1 -= 1) {
  // goes from 180 degrees to 0 degrees
  //in steps of 1 degree
    myservo1.write(pos1);              // tell servo to go to position in variable 'pos1'


  }


//Motor 2
for (pos2 = 180; pos2 >= 0; pos2 -= 1) {
  // goes from 180 degrees to 0 degrees
```

```
  // in steps of 1 degree
    myservo2.write(pos2);              // tell servo to go to position in variable 'pos2'

  }

//Motor 3
for (pos3= 180; pos3 >= 0; pos3 -= 1) {
  // goes from 180 degrees to 0 degrees
  // in steps of 1 degree
    myservo3.write(pos3);              // tell servo to go to position in variable 'pos3'

  }

delay(2000); //wait 2 seconds to end the relaesing process

//Car return to initial position
digitalWrite(0,LOW);
digitalWrite(1,HIGH);
delay (4000); // Wait until reaching the start point
digitalWrite(5,LOW); // disable the L293D driver
delay(5000); // wait until new object arrive
}


else if ((green > red) and (green > blue))
```

```
{
digitalWrite(g, HIGH); //LED Green indicator


//Arm picking process
//Arm lying down
//Motor 1
for (pos1 = 0; pos1 <= 180; pos1 += 1)
 { // goes from 0 degrees to 180 degrees
   // in steps of 1 degree
    myservo1.write(pos1);              // tell servo to go to position in variable 'pos1'
    }


//Motor 2
   for (pos2 = 0; pos2 <= 180; pos2 += 1)
   { // goes from 0 degrees to 180 degrees
    // in steps of 1 degree
    myservo2.write(pos2);              // tell servo to go to position in variable 'pos2'


   }


 //Motor 3
for (pos3 = 0; pos3 <= 180; pos3 += 1) {
  // goes from 0 degrees to 180 degrees
  // in steps of 1 degree
    myservo3.write(pos3);              // tell servo to go to position in variable 'pos3'
```

```
  }
delay(3000); //Wait 3 seconds after picking process
 //Arm lifiting up process
 //Motor 1
 for (pos1 = 180; pos1 >= 0; pos1 -= 1) {
  // goes from 180 degrees to 0 degrees
  //in steps of 1 degree
    myservo1.write(pos1);              // tell servo to go to position in variable 'pos1'


  }

//Motor 2
for (pos2 = 180; pos2 >= 0; pos2 -= 1) {
  // goes from 180 degrees to 0 degrees
  // in steps of 1 degree
    myservo2.write(pos2);              // tell servo to go to position in variable 'pos2'


  }

//Motor 3
for (pos3= 180; pos3 >= 0; pos3 -= 1) {
  // goes from 180 degrees to 0 degrees
  // in steps of 1 degree
    myservo3.write(pos3);              // tell servo to go to position in variable 'pos3'
```

```
  }
delay(2000); // Wait 2 seconds for lifiting up process
digitalWrite(5,HIGH); //Enable L293D driver

digitalWrite(0,HIGH); //Enable car motor to go forword
digitalWrite(1,LOW);

delay (5000); // Wait until the car reaches the specified container

digitalWrite(0,LOW); //Stop the car
digitalWrite(1,LOW);

delay(2000); //Wait 2 seconds for the car to stop

//Object releasing
//Arm lying down
//Motor 1
for (pos1 = 0; pos1 <= 180; pos1 += 1)
 { // goes from 0 degrees to 180 degrees
   // in steps of 1 degree
    myservo1.write(pos1);              // tell servo to go to position in variable 'pos1'
    }

//Motor 2
```

```
  for (pos2 = 0; pos2 <= 180; pos2 += 1)
  { // goes from 0 degrees to 180 degrees
   // in steps of 1 degree
   myservo2.write(pos2);              // tell servo to go to position in variable 'pos2'


  }


 //Motor 3
for (pos3 = 0; pos3 <= 180; pos3 += 1) {
  // goes from 0 degrees to 180 degrees
  // in steps of 1 degree
   myservo3.write(pos3);              // tell servo to go to position in variable 'pos3'


  }
delay(3000); //Wait 3 seconds after picking process
 //Arm lifiting up process
 //Motor 1
 for (pos1 = 180; pos1 >= 0; pos1 -= 1) {
  // goes from 180 degrees to 0 degrees
  //in steps of 1 degree
   myservo1.write(pos1);              // tell servo to go to position in variable 'pos1'


  }


//Motor 2
```

```
for (pos2 = 180; pos2 >= 0; pos2 -= 1) {
  // goes from 180 degrees to 0 degrees
  // in steps of 1 degree
    myservo2.write(pos2);              // tell servo to go to position in variable 'pos2'

  }

//Motor 3
for (pos3= 180; pos3 >= 0; pos3 -= 1) {
  // goes from 180 degrees to 0 degrees
  // in steps of 1 degree
    myservo3.write(pos3);              // tell servo to go to position in variable 'pos3'

  }

delay(2000); //wait 2 seconds to end the relaesing process

//Car return to initial position
digitalWrite(0,LOW);
digitalWrite(1,HIGH);
delay (5000); // Wait until reaching the start point
digitalWrite(5,LOW); // disable the L293D driver
delay(5000); // wait until new object arrive

 }
```

```
else if ((blue > red) and (blue > green))
{digitalWrite(b, HIGH);//LED Blue indicator

//Arm picking process
//Arm lying down
//Motor 1
for (pos1 = 0; pos1 <= 180; pos1 += 1)
 { // goes from 0 degrees to 180 degrees
   // in steps of 1 degree
    myservo1.write(pos1);              // tell servo to go to position in variable 'pos1'
    }

//Motor 2
   for (pos2 = 0; pos2 <= 180; pos2 += 1)
   { // goes from 0 degrees to 180 degrees
    // in steps of 1 degree
    myservo2.write(pos2);              // tell servo to go to position in variable 'pos2'

   }

 //Motor 3
for (pos3 = 0; pos3 <= 180; pos3 += 1) {
  // goes from 0 degrees to 180 degrees
  // in steps of 1 degree
```

```
   myservo3.write(pos3);              // tell servo to go to position in variable 'pos3'


  }
delay(3000); //Wait 3 seconds after picking process
 //Arm lifiting up process
 //Motor 1
 for (pos1 = 180; pos1 >= 0; pos1 -= 1) {
  // goes from 180 degrees to 0 degrees
  //in steps of 1 degree
   myservo1.write(pos1);              // tell servo to go to position in variable 'pos1'


  }


//Motor 2
for (pos2 = 180; pos2 >= 0; pos2 -= 1) {
  // goes from 180 degrees to 0 degrees
  // in steps of 1 degree
   myservo2.write(pos2);              // tell servo to go to position in variable 'pos2'


  }


//Motor 3
for (pos3= 180; pos3 >= 0; pos3 -= 1) {
  // goes from 180 degrees to 0 degrees
  // in steps of 1 degree
```

```
   myservo3.write(pos3);              // tell servo to go to position in variable 'pos3'


  }
delay(2000); // Wait 2 seconds for lifiting up process
digitalWrite(5,HIGH); //Enable L293D driver


digitalWrite(0,HIGH); //Enable car motor to go forword
digitalWrite(1,LOW);


delay (6000); // Wait until the car reaches the specified container


digitalWrite(0,LOW); //Stop the car
digitalWrite(1,LOW);


delay(2000); //Wait 2 seconds for the car to stop


//Object releasing
//Arm lying down
//Motor 1
for (pos1 = 0; pos1 <= 180; pos1 += 1)
 { // goes from 0 degrees to 180 degrees
   // in steps of 1 degree
   myservo1.write(pos1);              // tell servo to go to position in variable 'pos1'
   }
```

```
//Motor 2
  for (pos2 = 0; pos2 <= 180; pos2 += 1)
  { // goes from 0 degrees to 180 degrees
   // in steps of 1 degree
   myservo2.write(pos2);            // tell servo to go to position in variable 'pos2'

  }

 //Motor 3
for (pos3 = 0; pos3 <= 180; pos3 += 1) {
 // goes from 0 degrees to 180 degrees
 // in steps of 1 degree
   myservo3.write(pos3);            // tell servo to go to position in variable 'pos3'

  }
delay(3000); //Wait 3 seconds after picking process
 //Arm lifiting up process
 //Motor 1
 for (pos1 = 180; pos1 >= 0; pos1 -= 1) {
 // goes from 180 degrees to 0 degrees
 //in steps of 1 degree
   myservo1.write(pos1);            // tell servo to go to position in variable 'pos1'

  }
```

```
//Motor 2
for (pos2 = 180; pos2 >= 0; pos2 -= 1) {
  // goes from 180 degrees to 0 degrees
  // in steps of 1 degree
    myservo2.write(pos2);              // tell servo to go to position in variable 'pos2'

  }

//Motor 3
for (pos3= 180; pos3 >= 0; pos3 -= 1) {
  // goes from 180 degrees to 0 degrees
  // in steps of 1 degree
    myservo3.write(pos3);              // tell servo to go to position in variable 'pos3'

  }

delay(2000); //wait 2 seconds to end the relaesing process

//Car return to initial position
digitalWrite(0,LOW);
digitalWrite(1,HIGH);
delay (6000); // Wait until reaching the start point
digitalWrite(5,LOW); // disable the L293D driver
delay(5000); // wait until new object arrive
```

```
}


else
{digitalWrite(r, LOW);
digitalWrite(g, LOW);
digitalWrite(b, LOW);
digitalWrite (5,LOW); // Disable L293D driver
}
}
```