



தொழில்Nolordபு

அனைவருக்கும் நம் தாய் மொழியில் கல்வி கற்பது சுலபம்
ஆனால் இன்றைய ஆங்கிலம் சூழும் காலத்தில் கடினமாகின!
அவற்றை போக்க நம் மொழியில் தொழில்நுட்பம்(Technology)
மற்றும் எந்திரனியல்(ELECTRONICS) பற்றி கற்று கொள்வோம்!

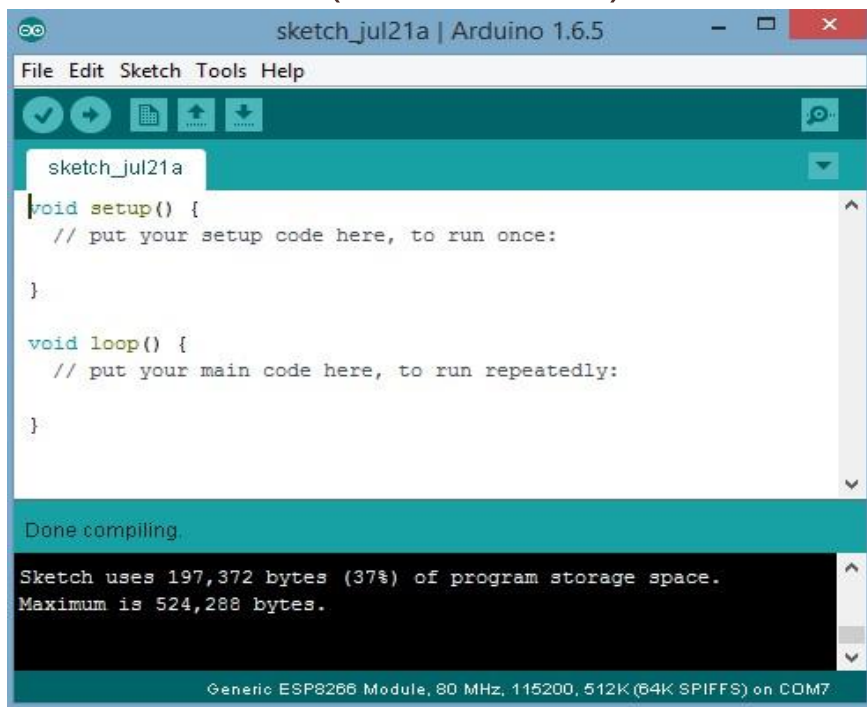
"ஆய கலைகளை கற்று தேர்ந்த நம் தமிழ் குடி
இன்னும் ஓர் கலையை கற்றுத்தேர நேரம் வந்தது"

HOW TO START WITH ARDUINO 101

BASIC PROGRAMS FOR:

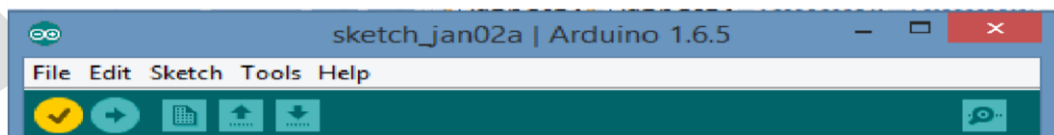
- LED
- BUZZER
- MOTOR

Introduction (ARDUINO) software and installation:

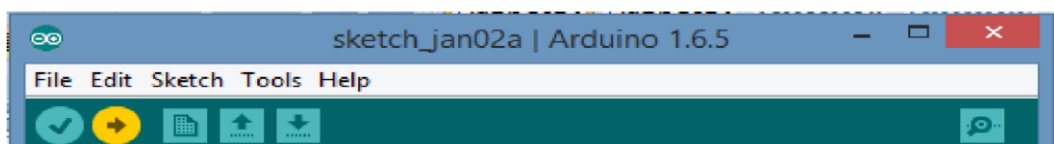


The Arduino IDE has some buttons or options which are present below the menu bar.

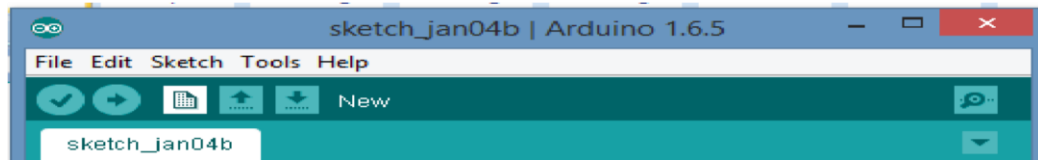
1. Verify: The "verify" button compiles the code.



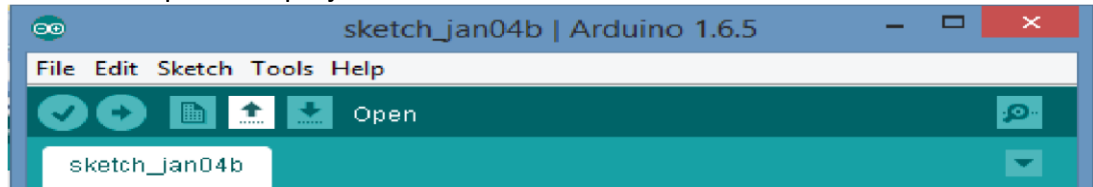
2. Upload: The "Upload" button does the trick of putting the code onto the board and starting the program.



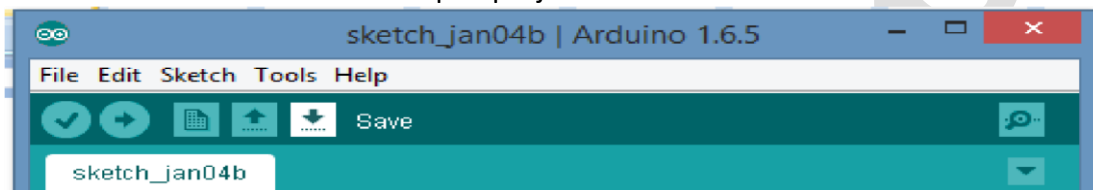
3. New: The "New" button opens the new source file to make a new project.



4. Open: The "Open" button opens the project which is made before.



5. Save: The "Save" button save the source file of open project



Before we go ahead with coding, we need to first test the hardware and install drivers. To install the driver , follow the below steps

If you are having blue Arduino UNO board then follow step 1.

Step 1: Connect your Arduino UNO board on USB port with the USB cable provided. Go to "my computer" right click > Properties > Device Manager

If you are lucky the under "Ports (COM & LPT)" you will find COMXX where XX can vary from PC to PC

- Open arduino IDE go to tools> boards> arduino UNO/ Genuino
- go to> tools> ports> and select the COM port number that "device manager" is indicating.
- Go to>files>Examples>Basics>Blink. The below window should appear:



Step 7: Click on upload button and observe LED 13 on Arduino UNO board, it should blink. You can further play with program by changing the delay between LED on and LED off

#1 HOW TO MAKE A LED BLINK?

Arduino UNO board as on board LED connected to pin number 13.

```
int led = 13; // Declaring LED to pin number 13 of Arduino UNO board

void setup() // Configuration part
{
  pinMode(led, OUTPUT); // Configuring LED as output pin
}

void loop() // Progress section
{
  digitalWrite(led, HIGH); // Making LED on
  delay(100); // On time
  digitalWrite(led, LOW); // Making LED off
  delay(100); // Off time
}
```

#2 HOW TO MAKE A BUZZERTO BEEP IN INTERVAL?

Connect a buzzer to pin number 9 in Arduino UNO.

```

int buz = 9;                                // Declaring BUZZER to pin number 9 of Arduino UNO board

void setup()                                // Configuration part
{
    pinMode(buz, OUTPUT);                    // Configuring BUZZER as output pin
}

void loop()                                  // Progress section
{
    digitalWrite(buz, HIGH);                 // Making BUZZER on
    delay(100);                              // On time
    digitalWrite(buz, LOW);                  // Making BUZZER off
    delay(100);                              // Off time
}

```

#3 BASIC PROGRAM FOR ROBOT MOVEMENTS

```

int rm1 = 2;                                // Declaring right motor 1 to pin no 2
int rm2 = 3;                                // Declaring right motor 2 to pin no 3
int lm1 = 4;                                // Declaring left motor 1 to pin no 4
int lm2 = 5;                                // Declaring left motor 2 to pin no 5
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void Forward()                              // Set of commands to move the robot forward
{
    digitalWrite(lm1, HIGH);                 // making left motor 1 ON
    digitalWrite(lm2, LOW);                  // making left motor 2 OFF
    digitalWrite(rm1, HIGH);                 // making right motor 1 ON
    digitalWrite(rm2, LOW);                  // making right motor 2 OFF
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void Backward()                             // Set of commands to move the robot backward
{
    digitalWrite(lm1, LOW);                  // making left motor 1 OFF
    digitalWrite(lm2, HIGH);                 // making left motor 2 ON
    digitalWrite(rm1, LOW);                  // making right motor 1 OFF
    digitalWrite(rm2, HIGH);                 // making right motor 2 ON
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void Left()                                 // Set of commands to move the robot left
{
    digitalWrite(lm1, LOW);                  // making left motor 1 OFF
    digitalWrite(lm2, HIGH);                 // making left motor 2 ON
    digitalWrite(rm1, HIGH);                 // making right motor 1 ON
    digitalWrite(rm2, LOW);                  // making right motor 2 OFF
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void Right()                                // Set of commands to move the robot right
{
    digitalWrite(lm1, HIGH);                 // making left motor 1 ON
    digitalWrite(lm2, LOW);                  // making left motor 2 OFF
}

```

```

digitalWrite (rm1, LOW);           // making right motor 1 OFF
digitalWrite (rm2, HIGH);          // making right motor 2 ON
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void Stop()                        // Set of commands to make the robot stop
{
    digitalWrite (lm1, LOW);        // making left motor 1 OFF
    digitalWrite (lm2, LOW);        // making left motor 2 OFF
    digitalWrite (rm1, LOW);        // making right motor 1 OFF
    digitalWrite (rm2, LOW);        // making right motor 2 OFF
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void setup()                      // Configuration part
{
    pinMode(lm1, OUTPUT);           // Configuring left motor 1 as output pin
    pinMode(lm2, OUTPUT);           // Configuring left motor 2 as output pin
    pinMode(rm1, OUTPUT);           // Configuring right motor 1 as output pin
    pinMode(rm2, OUTPUT);           // Configuring right motor 2 as output pin
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void loop()                       // Progress section
{
    Forward();                      // Calling the forward function
    delay(5000);                    // On time
    Stop();                         // Calling the stop function
    delay(5000);                    // Off time
    Backward();                     // Calling the backward function
    delay(5000);                    // On time
    Stop();                         // Calling the stop function
    delay(5000);                    // Off time
    Right();                        // Calling the right function
    delay(5000);                    // On time
    Stop();                         // Calling the stop function
    delay(5000);                    // Off time
    Left();                         // Calling the left function
    delay(5000);                    // On time
    Stop();                         // Calling the stop function
    delay(5000);                    // Off time
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////

```

#4 PROGRAM FOR LINE FOLLOWER ROBOT USING 2 IR SENSOR

```

////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
//Pin Configuration
int lir = 6;                       // Declaring Left IR Sensor to pin no 6
int rir = 7;                       // Declaring Right IR Sensor to pin no 7
int rm1 = 2;                      // Declaring right motor 1 to pin no 2
int rm2 = 3;                      // Declaring right motor 2 to pin no 3
int lm1 = 4;                      // Declaring left motor 1 to pin no 4
int lm2 = 5;                      // Declaring left motor 2 to pin no 5
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////

```



```

void Forward()                                     // Set of commands to move the robot forward
{
    digitalWrite(lm1, HIGH);                       // making left motor 1 ON
    digitalWrite(lm2, LOW);                        // making left motor 2 OFF
    digitalWrite(rm1, HIGH);                       // making right motor 1 ON
    digitalWrite(rm2, LOW);                        // making right motor 2 OFF
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void Backward()                                   // Set of commands to move the robot backward
{
    digitalWrite(lm1, LOW);                        // making left motor 1 OFF
    digitalWrite(lm2, HIGH);                      // making left motor 2 ON
    digitalWrite(rm1, LOW);                       // making right motor 1 OFF
    digitalWrite(rm2, HIGH);                      // making right motor 2 ON
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void Left()                                       // Set of commands to move the robot left
{
    digitalWrite(lm1, LOW);                       // making left motor 1 OFF
    digitalWrite(lm2, HIGH);                      // making left motor 2 ON
    digitalWrite(rm1, HIGH);                      // making right motor 1 ON
    digitalWrite(rm2, LOW);                       // making right motor 2 OFF
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void Right()                                    // Set of commands to move the robot right
{
    digitalWrite(lm1, HIGH);                      // making left motor 1 ON
    digitalWrite(lm2, LOW);                      // making left motor 2 OFF
    digitalWrite(rm1, LOW);                      // making right motor 1 OFF
    digitalWrite(rm2, HIGH);                     // making right motor 2 ON
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void Stop()                                     // Set of commands to make the robot stop
{
    digitalWrite(lm1, LOW);                       // making left motor 1 OFF
    digitalWrite(lm2, LOW);                      // making left motor 2 OFF
    digitalWrite(rm1, LOW);                      // making right motor 1 OFF
    digitalWrite(rm2, LOW);                      // making right motor 2 OFF
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void setup()                                   // Configuration part
{
    pinMode(lir, INPUT);                         // Configuring left IR Sensor as input pin
    pinMode(rir, INPUT);                         // Configuring right IR Sensor as input pin
    pinMode(lm1, OUTPUT);                       // Configuring left motor 1 as output pin
    pinMode(lm2, OUTPUT);                       // Configuring left motor 2 as output pin
    pinMode(rm1, OUTPUT);                       // Configuring right motor 1 as output pin
    pinMode(rm2, OUTPUT);                       // Configuring right motor 2 as output pin
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void readsens()                                // Set of commands to get sensor values
{
    lir = digitalRead(6);                        // reading Left IR Sensor value

```

```

    rir = digitalRead(7);                // reading Right IR Sensor value
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void loop()                            // Progress section
{
    readsens();                        // Calling the readsens function
    if ((lir == 1) && (rir == 1))      // both IR Sensors on White Surface
    {
        Forward();                    // Calling the Forward function
    }
    else if ((lir == 1) && (rir == 0)) // both Left IR Sen on White Surface, Right IR Sen on Black Line
    {
        Right();                      // Calling the Right function
    }
    else if ((lir == 0) && (rir == 1)) // both Left IR Sen on Black Line, Right IR Sen on White Surface
    {
        Left();                       // Calling the Left function
    }
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////

```

#5 PROGRAM FOR OBSTACLE AVOIDER ROBOT USING 3 IR SENSOR

```

////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
//Pin Configuration
int lir = 6;                // Declaring Left IR Sensor to pin no 6
int cir = 7;                // Declaring Center IR Sensor to pin no 7
int rir = 8;                // Declaring Right IR Sensor to pin no 8
int rm1 = 2;                // Declaring right motor 1 to pin no 2
int rm2 = 3;                // Declaring right motor 2 to pin no 3
int lm1 = 4;                // Declaring left motor 1 to pin no 4
int lm2 = 5;                // Declaring left motor 2 to pin no 5
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void Forward()              // Set of commands to move the robot forward
{
    digitalWrite(lm1, HIGH); // making left motor 1 ON
    digitalWrite(lm2, LOW);  // making left motor 2 OFF
    digitalWrite(rm1, HIGH); // making right motor 1 ON
    digitalWrite(rm2, LOW);  // making right motor 2 OFF
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void Backward()             // Set of commands to move the robot backward
{
    digitalWrite(lm1, LOW);  // making left motor 1 OFF
    digitalWrite(lm2, HIGH); // making left motor 2 ON
    digitalWrite(rm1, LOW);  // making right motor 1 OFF
    digitalWrite(rm2, HIGH); // making right motor 2 ON
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void Left()                 // Set of commands to move the robot left
{
    digitalWrite(lm1, LOW);  // making left motor 1 OFF

```



```

digitalWrite(lm2, HIGH);           // making left motor 2 ON
digitalWrite(rm1, HIGH);           // making right motor 1 ON
digitalWrite(rm2, LOW);            // making right motor 2 OFF
}
/////////////////////////////////////////////////////////////////
void Right()                       // Set of commands to move the robot right
{
    digitalWrite(lm1, HIGH);        // making left motor 1 ON
    digitalWrite(lm2, LOW);         // making left motor 2 OFF
    digitalWrite(rm1, LOW);         // making right motor 1 OFF
    digitalWrite(rm2, HIGH);        // making right motor 2 ON
}
/////////////////////////////////////////////////////////////////
void Stop()                        // Set of commands to make the robot stop
{
    digitalWrite(lm1, LOW);         // making left motor 1 OFF
    digitalWrite(lm2, LOW);         // making left motor 2 OFF
    digitalWrite(rm1, LOW);         // making right motor 1 OFF
    digitalWrite(rm2, LOW);         // making right motor 2 OFF
}
/////////////////////////////////////////////////////////////////
void setup()                       // Configuration part
{
    pinMode(lir, INPUT);            // Configuring left IR Sensor as input pin
    pinMode(cir, INPUT);            // Configuring Center IR Sensor as input pin
    pinMode(rir, INPUT);            // Configuring right IR Sensor as input pin
    pinMode(lm1, OUTPUT);           // Configuring left motor 1 as output pin
    pinMode(lm2, OUTPUT);           // Configuring left motor 2 as output pin
    pinMode(rm1, OUTPUT);           // Configuring right motor 1 as output pin
    pinMode(rm2, OUTPUT);           // Configuring right motor 2 as output pin
}
/////////////////////////////////////////////////////////////////
void readsens()                   // Set of commands to get sensor values
{
    lir = digitalRead(6);           // reading Left IR Sensor value
    cir = digitalRead(7);           // reading Center IR Sensor value
    rir = digitalRead(8);           // reading Right IR Sensor value
}
/////////////////////////////////////////////////////////////////
void loop()                       // Progress section
{
    readsens();                    // Calling the readsens function
    if((lir==1)&&(cir==1) )&&(rir==1) // all Sensors Detects Obstacle
        || (lir==0)&&(cir==1) )&&(rir==0)) // Center Sensor Detects Obstacle
        || (lir==1)&&(cir==0) )&&(rir==1)) // Left and Right Sensors Detects Obstacle
    {
        Stop();                   // Calling Stop Function
    }
    else if((lir==0)&&(cir==0) )&&(rir==0)) // all Sensors are free
    {
        Forward();                // Calling Forward Function
    }
    else if((lir==1)&&(cir==1) )&&(rir==0)) // Left and Center Sensor detects Obstacle

```

```

        || (lir==1)&&(cir==0) )&&(rir==0))    // Left Sensor detects Obstacle
    {
        Right();                                // Calling Right Function
    }
    else if((lir==0)&&(cir==1) )&&(rir==1)    // Right and Center Sensor detects Obstacle
        || (lir==0)&&(cir==0) )&&(rir==1))    // Right Sensor detects Obstacle
    {
        Left();                                // Calling Left Function
    }
}

```

#6 PROGRAM FOR OBSTACLE FOLLOWER ROBOT USING 3 IR SENSOR

```

//Pin Configuration
int lir = 6;                                // Declaring Left IR Sensor to pin no 6
int cir = 7;                                // Declaring Center IR Sensor to pin no 7
int rir = 8;                                // Declaring Right IR Sensor to pin no 8
int rm1 = 2;                                // Declaring right motor 1 to pin no 2
int rm2 = 3;                                // Declaring right motor 2 to pin no 3
int lm1 = 4;                                // Declaring left motor 1 to pin no 4
int lm2 = 5;                                // Declaring left motor 2 to pin no 5

void Forward()                               // Set of commands to move the robot forward
{
    digitalWrite(lm1, HIGH);                // making left motor 1 ON
    digitalWrite(lm2, LOW);                 // making left motor 2 OFF
    digitalWrite(rm1, HIGH);                // making right motor 1 ON
    digitalWrite(rm2, LOW);                 // making right motor 2 OFF
}

void Backward()                             // Set of commands to move the robot backward
{
    digitalWrite(lm1, LOW);                 // making left motor 1 OFF
    digitalWrite(lm2, HIGH);                // making left motor 2 ON
    digitalWrite(rm1, LOW);                 // making right motor 1 OFF
    digitalWrite(rm2, HIGH);                // making right motor 2 ON
}

void Left()                                 // Set of commands to move the robot left
{
    digitalWrite(lm1, LOW);                 // making left motor 1 OFF
    digitalWrite(lm2, HIGH);                // making left motor 2 ON
    digitalWrite(rm1, HIGH);                // making right motor 1 ON
    digitalWrite(rm2, LOW);                 // making right motor 2 OFF
}

void Right()                                // Set of commands to move the robot right
{
    digitalWrite(lm1, HIGH);                // making left motor 1 ON
    digitalWrite(lm2, LOW);                 // making left motor 2 OFF
    digitalWrite(rm1, LOW);                 // making right motor 1 OFF
}

```

```

digitalWrite (rm2, HIGH);           // making right motor 2 ON
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void Stop()                         // Set of commands to make the robot stop
{
    digitalWrite (lm1, LOW);        // making left motor 1 OFF
    digitalWrite (lm2, LOW);        // making left motor 2 OFF
    digitalWrite (rm1, LOW);        // making right motor 1 OFF
    digitalWrite (rm2, LOW);        // making right motor 2 OFF
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void setup()                       // Configuration part
{
    pinMode(lir, INPUT);            // Configuring left IR Sensor as input pin
    pinMode(cir, INPUT);            // Configuring Center IR Sensor as input pin
    pinMode(rir, INPUT);            // Configuring right IR Sensor as input pin
    pinMode(lm1, OUTPUT);           // Configuring left motor 1 as output pin
    pinMode(lm2, OUTPUT);           // Configuring left motor 2 as output pin
    pinMode(rm1, OUTPUT);           // Configuring right motor 1 as output pin
    pinMode(rm2, OUTPUT);           // Configuring right motor 2 as output pin
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void readsens()                    // Set of commands to get sensor values
{
    lir = digitalRead(6);            // reading Left IR Sensor value
    cir = digitalRead(7);            // reading Center IR Sensor value
    rir = digitalRead(8);            // reading Right IR Sensor value
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void loop()                        // Progress section
{
    readsens();                     // Calling the readsens function
    if((lir==1)&&(cir==1) )&&(rir==1) // all Sensors Detects Obstacle
        || (lir==0)&&(cir==1) )&&(rir==0)) // Center Sensor Detects Obstacle
        || (lir==1)&&(cir==0) )&&(rir==1)) // Left and Right Sensors Detects Obstacle
    {
        Forward();                 // Calling Forward Function
    }
    else if((lir==0)&&(cir==0) )&&(rir==0)) // all Sensors are free
    {
        Stop();                    // Calling Stop Function
    }
    else if((lir==1)&&(cir==1) )&&(rir==0) // Left and Center Sensor detects Obstacle
        || (lir==1)&&(cir==0) )&&(rir==0)) // Left Sensor detects Obstacle
    {
        Left();                    // Calling Left Function
    }
    else if((lir==0)&&(cir==1) )&&(rir==1) // Right and Center Sensor detects Obstacle
        || (lir==0)&&(cir==0) )&&(rir==1)) // Right Sensor detects Obstacle
    {
        Right();                  // Calling Right Function
    }
}

```

#7 PROGRAM FOR EDGE AVOIDER ROBOT USING 2 IR SENSOR

```
////////////////////////////////////
//Pin Configuration
```

```
int lir = 6;           // Declaring Left IR Sensor to pin no 6
int rir = 7;           // Declaring Right IR Sensor to pin no 7
int rm1 = 2;           // Declaring right motor 1 to pin no 2
int rm2 = 3;           // Declaring right motor 2 to pin no 3
int lm1 = 4;           // Declaring left motor 1 to pin no 4
int lm2 = 5;           // Declaring left motor 2 to pin no 5
////////////////////////////////////
```

```
void Forward()         // Set of commands to move the robot forward
{
    digitalWrite(lm1, HIGH); // making left motor 1 ON
    digitalWrite(lm2, LOW);  // making left motor 2 OFF
    digitalWrite(rm1, HIGH); // making right motor 1 ON
    digitalWrite(rm2, LOW);  // making right motor 2 OFF
}
////////////////////////////////////
```

```
void Backward()        // Set of commands to move the robot backward
{
    digitalWrite(lm1, LOW); // making left motor 1 OFF
    digitalWrite(lm2, HIGH); // making left motor 2 ON
    digitalWrite(rm1, LOW); // making right motor 1 OFF
    digitalWrite(rm2, HIGH); // making right motor 2 ON
}
////////////////////////////////////
```

```
void Left()            // Set of commands to move the robot left
{
    digitalWrite(lm1, LOW); // making left motor 1 OFF
    digitalWrite(lm2, HIGH); // making left motor 2 ON
    digitalWrite(rm1, HIGH); // making right motor 1 ON
    digitalWrite(rm2, LOW);  // making right motor 2 OFF
}
////////////////////////////////////
```

```
void Right()           // Set of commands to move the robot right
{
    digitalWrite(lm1, HIGH); // making left motor 1 ON
    digitalWrite(lm2, LOW);  // making left motor 2 OFF
    digitalWrite(rm1, LOW);  // making right motor 1 OFF
    digitalWrite(rm2, HIGH); // making right motor 2 ON
}
////////////////////////////////////
```

```
void Stop()            // Set of commands to make the robot stop
{
    digitalWrite(lm1, LOW); // making left motor 1 OFF
    digitalWrite(lm2, LOW); // making left motor 2 OFF
    digitalWrite(rm1, LOW); // making right motor 1 OFF
    digitalWrite(rm2, LOW); // making right motor 2 OFF
}
////////////////////////////////////
```

```

void setup()                                     // Configuration part
{
  pinMode(lir, INPUT);                          // Configuring left IR Sensor as input pin
  pinMode(rir, INPUT);                          // Configuring left IR Sensor as input pin
  pinMode(lm1, OUTPUT);                        // Configuring left motor 1 as output pin
  pinMode(lm2, OUTPUT);                        // Configuring left motor 2 as output pin
  pinMode(rm1, OUTPUT);                        // Configuring right motor 1 as output pin
  pinMode(rm2, OUTPUT);                        // Configuring right motor 2 as output pin
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void readsens()                                 // Set of commands to get sensor values
{
  lir = digitalRead(6);                        // reading Left IR Sensor value
  rir = digitalRead(7);                        // reading Right IR Sensor value
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void loop()                                    // Progress section
{
  readsens();                                  // Calling the readsens function
  if((lir==1)&&(rir==1))                        // all Sensors on Surface
  {
    Forward();                                // Calling Forward Function
  }
  else if((lir==0)&&(rir==0))                  // all Sensors are on Edge
  {
    Stop();                                   // Calling Stop Function
    delay(200);                               // Stop delay 200 milli seconds
    Backward();                               // Calling Backward Function
    delay(500);                               // Backward delay 500 milli seconds
    Right();                                  // Calling Right Function
    delay(300);                               // Right delay 300 milli seconds
  }
  else if((lir==0)&&(rir==1))                  // Left Sensor detects Edge
  {
    Right();                                  // Calling Right Function
  }
  else if((lir==1)&&(rir==0))                  // Right Sensor detects Edge
  {
    Left();                                   // Calling Left Function
  }
}
////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////

```