

```
/*Pat's IR Mecanum 4 WheelRobot Finger On to Run movement Actions, Off to Stop Actions.
```

```
  This is coded for the AIWA remote, NOTE- the DAEWOO remote has the 4 outer buttons reversed.
```

```
  Push centre Stop Button to turn off the Blue, Orange & Red LED's only. The Horn will stay on for 1 second then go off (because it is annoying!)
```

```
  Modified by Pat McMahon 23/7/2023,  
in1=3,in2=4,in3=5,in4=6,in5=7,in6=8,in7=9,in8=10, added Front Lights pin 12,  
Middle extra pin 13,Back Lights pin A0,Horn pin 11.
```

```
*/
```

```
#include <IRremote.h>
```

```
// connect motor controller pins to Arduino digital pins
```

```
// motor one`
```

```
const int in1 =3;
```

```
const int in2 = 4;
```

```
// motor two
```

```
const int in3 = 5;
```

```
const int in4 = 6;
```

```
// motor three
```

```
const int in5 =7;
```

```
const int in6 = 8;
```

```
// motor four
```

```
const int in7 = 9;
```

```
const int in8 = 10;
```

```
// LEDs
```

```
const int frontLights = 12;
```

```
const int middleLights = 13;
```

```
const int backLights = A0;
```

```
const int horn = 11;
```

```
const int delayTime =1000;
```

```
const int RECV_PIN = 2;
```

```
int lastMiniIRCommand = 0;
```

```
IRrecv irrecv(RECV_PIN);
```

```
void setup()
```

```
{
```

```
  // set all the motor control pins to outputs
```

```
  pinMode(in1, OUTPUT);
```

```
  pinMode(in2, OUTPUT);
```

```
  pinMode(in3, OUTPUT);
```

```
pinMode(in4, OUTPUT);
pinMode(in5, OUTPUT);
pinMode(in6, OUTPUT);
pinMode(in7, OUTPUT);
pinMode(in8, OUTPUT);
pinMode(frontLights, OUTPUT);
pinMode(middleLights, OUTPUT);
pinMode(backLights, OUTPUT);
pinMode(horn, OUTPUT);

irrecv.enableIRIn(); // Start the receiver
}

void loop()
{
  decode_results results;

  if (irrecv.decode(&results)) // if there is an IR reading
  {
    Serial.println(results.value, HEX);

    lastMiniIRCommand = results.value;

    switch (results.value)
    {
      case 0x2F0:
        Serial.println("Forwards");
        forwards();
        break;
      case 0xAF0:
        Serial.println("Backwards");
        backwards();
        break;
      case 0x2D0:
        Serial.println("Left");
        left();
        break;
      case 0xCD0:
        Serial.println("Right");
        right();
        break;
      case 0x90:
        Serial.println("Clockwise!");
        clockwise();
        break;
      case 0x490:
        Serial.println("AntiClockwise!");
        antiClockwise();
    }
  }
}
```

```
        break;
    case 0xA70:
        Serial.println("stop!");
        stop();
        break;
    case 0x37EE:
        Serial.println("ForwardRight!");
        forwardRight();
        break;
    case 0x6D25:
        Serial.println("BackRight!");
        backRight();
        break;
    case 0xE90:
        Serial.println("ForwardLeft!");
        forwardLeft();
        break;
    case 0x70:
        Serial.println("BackLeft!");
        backLeft();
        break;
    case 0xCE9:
        Serial.println("squareDisplay!");
        squareDisplay();
        break;
    case 0x5D0:
        Serial.println("display!");
        display();
        break;
    case 0xF38:
        Serial.println("frontLights!");
        FrontLights();
        break;
    case 0x738:
        Serial.println("middleLights!");
        MiddleLights();
        break;
    case 0x338:
        Serial.println("backLights!");
        BackLights();
        break;
    case 0xB38:
        Serial.println("horn!");
        Horn();
        break;
```

```

}
}

irrecv.resume(); // Receive the next value
}

void forwards()
{
  // Forward
  digitalWrite(in1, HIGH);
  digitalWrite(in2, LOW);
  digitalWrite(in3, HIGH);
  digitalWrite(in4, LOW);
  digitalWrite(in5, HIGH);
  digitalWrite(in6, LOW);
  digitalWrite(in7, HIGH);
  digitalWrite(in8, LOW);
  delay (delayTime);
  digitalWrite(in1, LOW);
  digitalWrite(in2, LOW);
  digitalWrite(in3, LOW);
  digitalWrite(in4, LOW);
  digitalWrite(in5, LOW);
  digitalWrite(in6, LOW);
  digitalWrite(in7, LOW);
  digitalWrite(in8, LOW);

}

void backwards()
{
  // Backwards
  digitalWrite(in1, LOW);
  digitalWrite(in2, HIGH);
  digitalWrite(in3, LOW);
  digitalWrite(in4, HIGH);
  digitalWrite(in5, LOW);
  digitalWrite(in6, HIGH);
  digitalWrite(in7, LOW);
  digitalWrite(in8, HIGH);
  delay (delayTime);
}

```

```
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
}

void right()
{
  // Right
  digitalWrite(in1, HIGH);
  digitalWrite(in2, LOW);
  digitalWrite(in3, LOW);
  digitalWrite(in4, HIGH);
  digitalWrite(in5, LOW);
  digitalWrite(in6, HIGH);
  digitalWrite(in7, HIGH);
  digitalWrite(in8, LOW);
  delay (delayTime);
  digitalWrite(in1, LOW);
  digitalWrite(in2, LOW);
  digitalWrite(in3, LOW);
  digitalWrite(in4, LOW);
  digitalWrite(in5, LOW);
  digitalWrite(in6, LOW);
  digitalWrite(in7, LOW);
  digitalWrite(in8, LOW);
}

void left()
{
  //left
  digitalWrite(in1, LOW);
  digitalWrite(in2, HIGH);
  digitalWrite(in3, HIGH);
  digitalWrite(in4, LOW);
  digitalWrite(in5, HIGH);
  digitalWrite(in6, LOW);
  digitalWrite(in7, LOW);
  digitalWrite(in8, HIGH);
  delay (delayTime);
  digitalWrite(in1, LOW);
  digitalWrite(in2, LOW);
```

```
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
}

void clockwise()
{
    //clockwise
    digitalWrite(in1, HIGH);
    digitalWrite(in2, LOW);
    digitalWrite(in3, HIGH);
    digitalWrite(in4, LOW);
    digitalWrite(in5, LOW);
    digitalWrite(in6, HIGH);
    digitalWrite(in7, LOW);
    digitalWrite(in8, HIGH);
    delay (delayTime);
    digitalWrite(in1, LOW);
    digitalWrite(in2, LOW);
    digitalWrite(in3, LOW);
    digitalWrite(in4, LOW);
    digitalWrite(in5, LOW);
    digitalWrite(in6, LOW);
    digitalWrite(in7, LOW);
    digitalWrite(in8, LOW);
}

void antiClockwise()
{
    //antiClockwise
    digitalWrite(in1, LOW);
    digitalWrite(in2, HIGH);
    digitalWrite(in3, LOW);
    digitalWrite(in4, HIGH);
    digitalWrite(in5, HIGH);
    digitalWrite(in6, LOW);
    digitalWrite(in7, HIGH);
    digitalWrite(in8, LOW);
    delay (delayTime);
    digitalWrite(in1, LOW);
    digitalWrite(in2, LOW);
    digitalWrite(in3, LOW);
    digitalWrite(in4, LOW);
}
```

```
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
}
void forwardRight()
{
  //forwardRight
  digitalWrite(in1, HIGH);
  digitalWrite(in2, LOW);
  digitalWrite(in3, LOW);
  digitalWrite(in4, LOW);
  digitalWrite(in5, LOW);
  digitalWrite(in6, LOW);
  digitalWrite(in7, HIGH);
  digitalWrite(in8, LOW);
  delay (delayTime);
  digitalWrite(in1, LOW);
  digitalWrite(in2, LOW);
  digitalWrite(in3, LOW);
  digitalWrite(in4, LOW);
  digitalWrite(in5, LOW);
  digitalWrite(in6, LOW);
  digitalWrite(in7, LOW);
  digitalWrite(in8, LOW);
}

void forwardLeft()
{
  //forwardLeft
  digitalWrite(in1, LOW);
  digitalWrite(in2 ,LOW);
  digitalWrite(in3, HIGH);
  digitalWrite(in4, LOW);
  digitalWrite(in5, HIGH);
  digitalWrite(in6, LOW);
  digitalWrite(in7, LOW);
  digitalWrite(in8, LOW);
  delay (delayTime);
  digitalWrite(in1, LOW);
  digitalWrite(in2, LOW);
  digitalWrite(in3, LOW);
  digitalWrite(in4, LOW);
  digitalWrite(in5, LOW);
  digitalWrite(in6, LOW);
  digitalWrite(in7, LOW);
}
```

```
digitalWrite(in8, LOW);
}
void backRight()
{
  //backRight
  digitalWrite(in1, LOW);
  digitalWrite(in2, LOW);
  digitalWrite(in3, LOW);
  digitalWrite(in4, HIGH);
  digitalWrite(in5, LOW);
  digitalWrite(in6, HIGH);
  digitalWrite(in7, LOW);
  digitalWrite(in8, LOW);
  delay (delayTime);
  digitalWrite(in1, LOW);
  digitalWrite(in2, LOW);
  digitalWrite(in3, LOW);
  digitalWrite(in4, LOW);
  digitalWrite(in5, LOW);
  digitalWrite(in6, LOW);
  digitalWrite(in7, LOW);
  digitalWrite(in8, LOW);
}

void backLeft()
{
  //backLeft
  digitalWrite(in1, LOW);
  digitalWrite(in2, HIGH);
  digitalWrite(in3, LOW);
  digitalWrite(in4, LOW);
  digitalWrite(in5, LOW);
  digitalWrite(in6, LOW);
  digitalWrite(in7, LOW);
  digitalWrite(in8, HIGH);
  delay (delayTime);
  digitalWrite(in1, LOW);
  digitalWrite(in2, LOW);
  digitalWrite(in3, LOW);
  digitalWrite(in4, LOW);
  digitalWrite(in5, LOW);
  digitalWrite(in6, LOW);
  digitalWrite(in7, LOW);
  digitalWrite(in8, LOW);
}
```



```

}

void display()
{
  //DISPLAY DANCE

  //backLights On
  delay (delayTime);
  digitalWrite(backLights, HIGH);
  delay (delayTime);
  //middleLights On
  digitalWrite(middleLights, HIGH);
  delay (delayTime);
  //frontLights On
  digitalWrite(frontLights, HIGH);
  delay (delayTime);
  //horn On
  digitalWrite(horn, HIGH);
  delay (delayTime);
  //horn Off
  digitalWrite(horn, LOW);
  delay (delayTime);
  // Forward
  digitalWrite(in1, HIGH);
  digitalWrite(in2, LOW);
  digitalWrite(in3, HIGH);
  digitalWrite(in4, LOW);
  digitalWrite(in5, HIGH);
  digitalWrite(in6, LOW);
  digitalWrite(in7, HIGH);
  digitalWrite(in8, LOW);
  delay (delayTime);
  digitalWrite(in1, LOW);
  digitalWrite(in2, LOW);
  digitalWrite(in3, LOW);
  digitalWrite(in4, LOW);
  digitalWrite(in5, LOW);
  digitalWrite(in6, LOW);
  digitalWrite(in7, LOW);
  digitalWrite(in8, LOW);
  delay (delayTime);
  // Backwards
  digitalWrite(in1, LOW);
  digitalWrite(in2, HIGH);
  digitalWrite(in3, LOW);
  digitalWrite(in4, HIGH);
  digitalWrite(in5, LOW);
  digitalWrite(in6, HIGH);

```

```
digitalWrite(in7, LOW);
digitalWrite(in8, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
// Right
digitalWrite(in1, HIGH);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, HIGH);
digitalWrite(in5, LOW);
digitalWrite(in6, HIGH);
digitalWrite(in7, HIGH);
digitalWrite(in8, LOW);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//left
digitalWrite(in1, LOW);
digitalWrite(in2, HIGH);
digitalWrite(in3, HIGH);
digitalWrite(in4, LOW);
digitalWrite(in5, HIGH);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
```

```
digitalWrite(in8, LOW);
delay (delayTime);
//left
digitalWrite(in1, LOW);
digitalWrite(in2, HIGH);
digitalWrite(in3, HIGH);
digitalWrite(in4, LOW);
digitalWrite(in5, HIGH);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
// Right
digitalWrite(in1, HIGH);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, HIGH);
digitalWrite(in5, LOW);
digitalWrite(in6, HIGH);
digitalWrite(in7, HIGH);
digitalWrite(in8, LOW);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//forwardLeft
digitalWrite(in1, LOW);
digitalWrite(in2 ,LOW);
digitalWrite(in3, HIGH);
digitalWrite(in4, LOW);
digitalWrite(in5, HIGH);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
```

```
digitalWrite(in8, LOW);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//backRight
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, HIGH);
digitalWrite(in5, LOW);
digitalWrite(in6, HIGH);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//forwardRight
digitalWrite(in1, HIGH);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, HIGH);
digitalWrite(in8, LOW);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
```

```
delay (delayTime);
//backLeft
digitalWrite(in1, LOW);
digitalWrite(in2, HIGH);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//backRight
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, HIGH);
digitalWrite(in5, LOW);
digitalWrite(in6, HIGH);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//forwardLeft
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, HIGH);
digitalWrite(in4, LOW);
digitalWrite(in5, HIGH);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
```

```
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//backLeft
digitalWrite(in1, LOW);
digitalWrite(in2, HIGH);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//forwardRight
digitalWrite(in1, HIGH);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, HIGH);
digitalWrite(in8, LOW);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
```

```
//clockwise
digitalWrite(in1, HIGH);
digitalWrite(in2, LOW);
digitalWrite(in3, HIGH);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, HIGH);
digitalWrite(in7, LOW);
digitalWrite(in8, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//antiClockwise
digitalWrite(in1, LOW);
digitalWrite(in2, HIGH);
digitalWrite(in3, LOW);
digitalWrite(in4, HIGH);
digitalWrite(in5, HIGH);
digitalWrite(in6, LOW);
digitalWrite(in7, HIGH);
digitalWrite(in8, LOW);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//frontLights Off
digitalWrite(frontLights, LOW);
delay (delayTime);
//middleLights Off
digitalWrite(middleLights, LOW);
delay (delayTime);
//backLights Off
digitalWrite(backLights, LOW);
delay (delayTime);
//horn On
```

```

digitalWrite(horn, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
//horn Off
digitalWrite(horn,LOW);
delay (delayTime);
//horn On
digitalWrite(horn, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
//horn Off
digitalWrite(horn,LOW);
delay (delayTime);
}

void squareDisplay()
{
//SQUARE DISPLAY DANCE

//backLights On
delay (delayTime);
digitalWrite(backLights, HIGH);
delay (delayTime);
//middleLights On
digitalWrite(middleLights, HIGH);
delay (delayTime);
//frontLights On
digitalWrite(frontLights, HIGH);
delay (delayTime);
//horn On
digitalWrite(horn, HIGH);
delay (delayTime);
//horn Off
digitalWrite(horn, LOW);

```



```
delay (delayTime);
// Forward
digitalWrite(in1, HIGH);
digitalWrite(in2, LOW);
digitalWrite(in3, HIGH);
digitalWrite(in4, LOW);
digitalWrite(in5, HIGH);
digitalWrite(in6, LOW);
digitalWrite(in7, HIGH);
digitalWrite(in8, LOW);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
// Backwards
digitalWrite(in1, LOW);
digitalWrite(in2, HIGH);
digitalWrite(in3, LOW);
digitalWrite(in4, HIGH);
digitalWrite(in5, LOW);
digitalWrite(in6, HIGH);
digitalWrite(in7, LOW);
digitalWrite(in8, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
// Right
digitalWrite(in1, HIGH);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, HIGH);
digitalWrite(in5, LOW);
digitalWrite(in6, HIGH);
digitalWrite(in7, HIGH);
digitalWrite(in8, LOW);
```

```
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//left
digitalWrite(in1, LOW);
digitalWrite(in2, HIGH);
digitalWrite(in3, HIGH);
digitalWrite(in4, LOW);
digitalWrite(in5, HIGH);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//left
digitalWrite(in1, LOW);
digitalWrite(in2, HIGH);
digitalWrite(in3, HIGH);
digitalWrite(in4, LOW);
digitalWrite(in5, HIGH);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
```

```
// Right
digitalWrite(in1, HIGH);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, HIGH);
digitalWrite(in5, LOW);
digitalWrite(in6, HIGH);
digitalWrite(in7, HIGH);
digitalWrite(in8, LOW);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//forwardLeft
digitalWrite(in1, LOW);
digitalWrite(in2 ,LOW);
digitalWrite(in3, HIGH);
digitalWrite(in4, LOW);
digitalWrite(in5, HIGH);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
// Right
digitalWrite(in1, HIGH);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, HIGH);
digitalWrite(in5, LOW);
digitalWrite(in6, HIGH);
digitalWrite(in7, HIGH);
digitalWrite(in8, LOW);
delay (delayTime);
```

```
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
// Backwards
digitalWrite(in1, LOW);
digitalWrite(in2 ,HIGH);
digitalWrite(in3, LOW);
digitalWrite(in4, HIGH);
digitalWrite(in5, LOW);
digitalWrite(in6, HIGH);
digitalWrite(in7, LOW);
digitalWrite(in8, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//left
digitalWrite(in1, LOW);
digitalWrite(in2, HIGH);
digitalWrite(in3, HIGH);
digitalWrite(in4, LOW);
digitalWrite(in5, HIGH);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
// Forward
```

```
digitalWrite(in1, HIGH);
digitalWrite(in2, LOW);
digitalWrite(in3, HIGH);
digitalWrite(in4, LOW);
digitalWrite(in5, HIGH);
digitalWrite(in6, LOW);
digitalWrite(in7, HIGH);
digitalWrite(in8, LOW);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
  //backRight
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, HIGH);
digitalWrite(in5, LOW);
digitalWrite(in6, HIGH);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
  //clockwise
digitalWrite(in1, HIGH);
digitalWrite(in2, LOW);
digitalWrite(in3, HIGH);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, HIGH);
digitalWrite(in7, LOW);
digitalWrite(in8, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
```

```
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//antiClockwise
digitalWrite(in1, LOW);
digitalWrite(in2, HIGH);
digitalWrite(in3, LOW);
digitalWrite(in4, HIGH);
digitalWrite(in5, HIGH);
digitalWrite(in6, LOW);
digitalWrite(in7, HIGH);
digitalWrite(in8, LOW);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
delay (delayTime);
//frontLights Off
digitalWrite(frontLights, LOW);
delay (delayTime);
//middleLights Off
digitalWrite(middleLights, LOW);
delay (delayTime);
//backLights Off
digitalWrite(backLights, LOW);
delay (delayTime);
//horn On
digitalWrite(horn, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
//horn Off
```

```
digitalWrite(horn,LOW);
delay (delayTime);
//horn On
digitalWrite(horn, HIGH);
delay (delayTime);
digitalWrite(in1, LOW);
digitalWrite(in2, LOW);
digitalWrite(in3, LOW);
digitalWrite(in4, LOW);
digitalWrite(in5, LOW);
digitalWrite(in6, LOW);
digitalWrite(in7, LOW);
digitalWrite(in8, LOW);
//horn Off
digitalWrite(horn,LOW);
delay (delayTime);
}

void stop()
{
    // stop all motors
    digitalWrite(in1, LOW);
    digitalWrite(in2, LOW);
    digitalWrite(in3, LOW);
    digitalWrite(in4, LOW);
    digitalWrite(in5, LOW);
    digitalWrite(in6, LOW);
    digitalWrite(in7, LOW);
    digitalWrite(in8, LOW);
    digitalWrite(frontLights, LOW);
    digitalWrite(middleLights, LOW);
    digitalWrite(backLights, LOW);
    digitalWrite(horn,LOW);
}

void FrontLights()
{
    //frontLights On
    digitalWrite(frontLights, HIGH);
}

void MiddleLights()
{
    //middleLights On
```

```
digitalWrite(middleLights, HIGH);  
  
}  
  
void BackLights()  
{  
    //backLights On  
    digitalWrite(backLights, HIGH);  
  
}  
  
void Horn()  
{  
    //horn On  
    digitalWrite(horn, HIGH);  
    delay (delayTime);  
    digitalWrite(in1, LOW);  
    digitalWrite(in2, LOW);  
    digitalWrite(in3, LOW);  
    digitalWrite(in4, LOW);  
    digitalWrite(in5, LOW);  
    digitalWrite(in6, LOW);  
    digitalWrite(in7, LOW);  
    digitalWrite(in8, LOW);  
  
    digitalWrite(horn,LOW);  
  
}
```