

ASSIGNMENT 1

```
#include<SoftwareSerial.h>
```

```
#define START_CMD_CHAR '>' //Indicate Start Of A Sensor Reading Set
```

```
#define END_CMD_CHAR '\n' //Indicate End Of A Sensor Reading Set
```

```
#define DIV_CMD_CHAR ','
```

```
//Sensor Reading Set Is In The Form : " >(Sensor Type),(Reading Count),(First Dimension Value),(Second Dimension Value),(Third Dimension Value) "
```

```
#define motor1pin1 13
```

```
#define motor1pin2 12
```

```
#define motor2pin1 10
```

```
#define motor2pin2 11
```

```
void stopr()
```

```
{
```

```
    digitalWrite(motor1pin1,LOW);
```

```
    digitalWrite(motor1pin2,LOW);
```

```
}
```

```
void stopl()
```

```
{
```

```
    digitalWrite(motor2pin1,LOW);
```

```
    digitalWrite(motor2pin2,LOW);
```

```
}
```

```
void forwardr()
```

```
{
```

```
    digitalWrite(motor1pin1,HIGH);
```

```
    digitalWrite(motor1pin2,LOW);
```

```
}
```

```
void forwardl()
{
    digitalWrite(motor2pin1,HIGH);
    digitalWrite(motor2pin2,LOW);
}
```

```
void backwardr()
{
    digitalWrite(motor1pin1,LOW);
    digitalWrite(motor1pin2,HIGH);
}
```

```
void backwardl()
{
    digitalWrite(motor2pin1,LOW);
    digitalWrite(motor2pin1,HIGH);
}
```

```
SoftwareSerial BT(9,8);
```

```
float value0, value1, value2;
```

```
void setup() {
    //pinMode(LED_PIN, OUTPUT);
    Serial.begin(9600);
    BT.begin(9600);
    Serial.flush();
    BT.flush();
}
```

```
pinMode(10,OUTPUT);
pinMode(11,OUTPUT);
pinMode(12,OUTPUT);
pinMode(13,OUTPUT);
pinMode(7,OUTPUT);
digitalWrite(7,HIGH);
}
```

```
void loop()
{
    BT.flush();
    int sensorType = 0;
    char getChar = ' '; //read serial
    // wait for incoming data
    if (BT.available() < 1)
    {
        return; // If Serial Is Empty, Return To loop().
    }
    getChar = BT.read();
    if (getChar != START_CMD_CHAR)
    {
        return; // If No Command Start Flag, Return To loop().
    }
    // Parse Incoming Data
    // Syntax Of Incoming Data : [ >(Sensor Type - Integer),(Count - Integer),(Value 0 -
    Float),(Value 1 - Float),(Value 2 - Float)\n ]
    //start:
    sensorType = BT.parseInt(); // Read Sensor Type
    BT.parseInt(); // Read Total Logged Sensor Readings
    value0 = BT.parseFloat(); // 1st Value Of Sensor
    value1 = BT.parseFloat(); // 2nd Value Of Sensor
    value2 = BT.parseFloat();
```

```
if (sensorType==3)
{ // 3rd Value Of Sensor
  if(value0<=180)
  if(value1>0)
  {
    forwardl();
    forwardr();
  }
  else
  {
    backwardl();
    backwardr();
  }
  else
  if(value2<0)
  { forwardl();
    stopr();
  }
  else
  {
    forwardr();
    stopl();
  }
}

//goto start;
}
```