```
1
    // C++ code
 2
    11
 3
    int TRIG = 2;
    int ECHO = 3;
 4
 5
    int BUZZ = 8;
   void setup()
 6
 7
      pinMode(TRIG, OUTPUT);
 8
 9
      pinMode(ECHO, INPUT);
      pinMode(BUZZ, OUTPUT);
10
      Serial.begin(9600);
11
12
    }
13
14
   void loop()
15
    {
      digitalWrite(TRIG, LOW);
16
17
      delayMicroseconds(2);
      digitalWrite(TRIG, HIGH);
18
19
      delayMicroseconds(10);
20
      digitalWrite(TRIG, LOW);
      int distance = pulseIn(ECHO, HIGH);
21
      int cm = 0.01723 * distance;
22
23
      Serial.print("Distance in cm = ");
      Serial.println(cm);
24
      if(cm <= 335)
25
26
      {
        digitalWrite(BUZZ, HIGH);
27
28
29
      else
30
      1
31
        digitalWrite(BUZZ, LOW);
32
      delay(100);
33
34
    }
35
```

```
int BUZZ = 3;
int PIR = 2;
void setup()
                          pir buzzer
{
  pinMode(3, OUTPUT);
  pinMode(2, INPUT);
  Serial.begin(9600);
}
void loop()
{
  int movement = digitalRead(PIR);
  Serial.print("Obstracle = ");
  Serial.println(movement);
  if(movement == 1)
  {
    digitalWrite(BUZZ, HIGH);
  7
  else
  1
    digitalWrite(BUZZ, LOW);
  7
  delay(500);
}
```

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```
int BUZZ = 3;
int PIR = 2;
void setup()
{
  pinMode(3, OUTPUT);
  pinMode(2, INPUT);
  Serial.begin(9600);
}
void loop()
{
  int movement = digitalRead(PIR);
  Serial.print("Obstracle = ");
  Serial.println(movement);
  if(movement == 1)
  {
    digitalWrite(BUZZ, HIGH);
  7
  else
  {
    digitalWrite(BUZZ, LOW);
  7
  delay(500);
}
```

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Text

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1 (Arduino

```
// C++ code
 1
 2
   11
 3
   int LED=12;
   int PIRPin=7;
 4
                                PIR SENSOR
 5
   int isObstacle=LOW;
 6
 7
   void setup()
8
   {
     pinMode(LED,OUTPUT);
 9
10
      pinMode(PIRPin, INPUT);
11
      Serial.begin(9600);
12
   }
13
14
   void loop()
15
   {
      isObstacle=digitalRead(PIRPin);
16
      if (isObstacle==HIGH)
17
      1
18
        Serial.println("Obstacle detected");
19
        digitalWrite(LED, HIGH);
20
21
      7
22
     else
23
      {
        Serial.println("Clear path no obstacle");
24
        digitalWrite(LED, LOW);
25
26
27
      delay(1000);
   }
28
```

```
1 // C++ code
 2 //
 3 int LIGHT = 8;
 4 int FAN = 9:
                                         light fan
 5 int PIR = 2:
 6 int TMP = A0:
 7 void setup()
 8 1
9
     pinMode(8, OUTPUT);
     pinMode(9, OUTPUT):
10
11
     pinMode(2, INPUT);
12
     pinMode(A0, INPUT);
13
     Serial, begin (9600):
14 3
15
16 void loop()
17 1
18
     int movement = digitalRead(PIR);
19
     int celsius = map(((analogRead(AO) - 20) * 3.04), 0, 1023, -40,
20
     int fahrenheit = ((celsius * 9) / 5 + 32);
21
     Serial.print(celsius);
22
     Serial.print( * C. "):
23
     Serial.print(fahrenheit);
24
     Serial.print( F. ");
25
     Serial.print(movement);
26
     Serial.println(" movement");
27
     if(celsius >=35)
28
29
       digitalWrite(FAN, HIGH);
3.0
     1
31
     else
32
     1
33
       digitalWrite(FAN, LOW);
34
3.5
     if(movement == 1)
36
37
       digitalWrite(LIGHT, HIGH);
38
39
     else
40
       digitalWrite(LIGHT, LOW);
41
42
43
     delay(1000):
44 }
```

```
// C++ code
11
int Ledpin1 = 13;
int Ledpin2 = 12;
int Ledpin3 = 11;
void setup()
F
  pinMode(Ledpin1, OUTPUT);
  pinMode(Ledpin2, OUTPUT);
  pinMode(Ledpin3, OUTPUT);
}
void loop()
1
  digitalWrite(Ledpin1, HIGH);
  delay(3000);
  digitalWrite(Ledpin2, LOW);
   delay(1000);
  digitalWrite(Ledpin3, LOW);
  delay(1000);
 digitalWrite(Ledpin1, LOW);
   delay(500);
 digitalWrite(Ledpin2, HIGH);
   delay(500);
  digitalWrite(Ledpin3, LOW);
  delay(500);
  digitalWrite(Ledpin1, LOW);
   delay(1000);
  digitalWrite(Ledpin2, LOW);
   delay(1000);
  digitalWrite(Ledpin3, HIGH);
   delay(5000);
  digitalWrite(Ledpin3, LOW);
  delay(1000);
}
```

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CXL
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```
// C++ code
11
int LDR_PIN = A0;
int LED_PIN = 12;
int LDR_Val = 0;
void setup()
{
  pinMode(LDR_PIN, INPUT);
  pinMode(LED_PIN, OUTPUT);
  Serial.begin(9600);
}
void loop()
{
  LDR_Val = analogRead(LDR_PIN);
  Serial.print("LED Value = ");
  Serial.println(LDR_Val);
  if (LDR_Val > 50)
    digitalWrite(LED_PIN, HIGH);
  else
    digitalWrite(LED_PIN, LOW);
}
```

```
// C++ code
 1
 2
   11
 3
   int TRIG = 2;
   int ECHO = 3:
                               ultrasonic buzzer
 5
   int BUZZ = 8;
   void setup()
 7
      pinMode(TRIG, OUTPUT);
 8
      pinMode(ECHO, INPUT);
 9
10
      pinMode(BUZZ, OUTPUT);
      Serial.begin(9600);
11
12
    }
13
14
   void loop()
15
    f
16
      digitalWrite(TRIG, LOW);
17
      delayMicroseconds(2);
      digitalWrite(TRIG, HIGH);
18
19
      delayMicroseconds(10);
20
      digitalWrite(TRIG, LOW);
      int distance = pulseIn(ECHO, HIGH);
21
      int cm = 0.01723 * distance;
22
23
      Serial.print("Distance in cm = ");
24
      Serial.println(cm);
      if(cm <= 335)
25
26
        digitalWrite(BUZZ, HIGH);
27
28
29
      else
30
      1
        digitalWrite(BUZZ, LOW);
31
32
      delay(100);
3.3
34
    }
35
```

```
1 // C++ code
 2 //
 3 int LIGHT = 8;
 4 int FAN = 9:
 5 int PIR = 2:
 6 int TMP = A0:
 7 void setup()
 8 1
9
     pinMode(8, OUTPUT);
     pinMode(9, OUTPUT):
10
11
     pinMode(2, INPUT);
     pinMode(A0, INPUT):
12
13
     Serial.begin(9600);
14 }
15
16 void loop()
17 {
18
     int movement = digitalRead(PIR);
     int celsius = map(((analogRead(A0) - 20) * 3.04), 0, 1023, -40,
19
20
     int fahrenheit = ((celsius * 9) / 5 + 32);
     Serial.print(celsius);
21
22
     Serial.print( " C. "):
23
     Serial.print(fahrenheit);
     Serial.print(" F. ");
24
25
     Serial.print(movement);
     Serial.println(" movement");
26
27
     if(celsius >=35)
28
29
       digitalWrite(FAN, HIGH);
3.0
     3
31
     else
32
33
       digitalWrite(FAN, LOW);
34
35
     if(movement == 1)
36
37
       digitalWrite(LIGHT, HIGH);
38
39
     else
40
     1
41
       digitalWrite(LIGHT, LOW);
42
43
     delay(1000);
44 }
11 2
```

```
1 // C++ code
 2
   11
 3 int threshold_value = 0;
   int celsius = 0;
   int fahrenheit = 0;
   int R_{LED} = 4;
 6
 7
 8
 9
   void setup()
10
11
     pinMode(A0, INPUT);
12
13
      Serial.begin(9600);
14
15
16
     pinMode(R_LED, OUTPUT);
17
18
19
20
   void loop()
21
22
     threshold_value = 35;
23
     celsius = map(((analogRead(A0) - 20) * 3.04), 0, 1023, -40, 125)
24
25
      fahrenheit = ((celsius * 9) / 5 + 32);
26
27
28
      Serial.print(celsius);
29
      Serial.print(" C, ");
30
      Serial.print(fahrenheit);
31
      Serial.println(" F");
32
33
      if (celsius > threshold_value)
34
       {
35
       digitalWrite(4, HIGH);
36
       }
37
     else
38
39
        digitalWrite(4, LOW);
40
      }
41
     delay(100);
42
43
```

Text

<u>+</u>



1 (Arduino

```
// C++ code
 1
 2
   11
 3
   int LED=12;
   int PIRPin=7;
 4
 5
    int isObstacle=LOW;
 6
7
   void setup()
8
    {
      pinMode(LED,OUTPUT);
 9
10
      pinMode(PIRPin, INPUT);
11
      Serial.begin(9600);
12
    }
13
14
   void loop()
15
    {
      isObstacle=digitalRead(PIRPin);
16
      if (isObstacle = = HIGH)
17
      {
18
        Serial.println("Obstacle detected");
19
        digitalWrite(LED, HIGH);
20
21
      7
22
      else
      {
23
        Serial.println("Clear path no obstacle");
24
        digitalWrite(LED, LOW);
25
26
27
      delay(1000);
    }
28
```



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