

# ASSIGNMENT -4

## Python Programming

NAME	MATHAN KUMAR T
Maximum Marks	2 Marks

### Code:

```
#include<Servo.h>
const int pingPin = 7;
int servoPin = 8;

Servo servo1;

void setup() {
  // initialize serial communication:
  Serial.begin(9600);
  servo1.attach(servoPin);
  pinMode(2,INPUT);
  pinMode(4,OUTPUT);
  pinMode(11,OUTPUT);
  pinMode(12,OUTPUT);
  pinMode(13,OUTPUT);
  pinMode(A0,INPUT);
  digitalWrite(2,LOW);
  digitalWrite(11,HIGH);
}

void loop() {

  long duration, inches, cm;

  pinMode(pingPin, OUTPUT);
  digitalWrite(pingPin, LOW);
  delayMicroseconds(2);
  digitalWrite(pingPin, HIGH);
  delayMicroseconds(5);
  digitalWrite(pingPin, LOW);

  pinMode(pingPin, INPUT);
  duration = pulseIn(pingPin, HIGH);
```

```
// convert the time into a distance
inches = microsecondsToInches(duration);
cm = microsecondsToCentimeters(duration);
```

```
Serial.print(inches);
Serial.print("in, ");
Serial.print(cm);
Serial.print("cm");
Serial.println();
delay(100);
```

```
servo1.write(0);
```

```
if(cm < 40)
{
    servo1.write(90);
    delay(2000);
}
else
{
    servo1.write(0);
}
```

```
int pir = digitalRead(2);
```

```
if(pir == HIGH)
{
    digitalWrite(4,HIGH);
    delay(1000);
}
else if(pir == LOW)
{
    digitalWrite(4,LOW);
}
```

```
float value=analogRead(A0);
float temperature=value*0.48;
```

```
Serial.println("temperature");
Serial.println(temperature);
```

```
if(temperature > 20)
{
    digitalWrite(12,HIGH);
    digitalWrite(13,LOW);
}
else
```

```

{
  digitalWrite(12,LOW);
  digitalWrite(13,LOW);
}
}

```

```

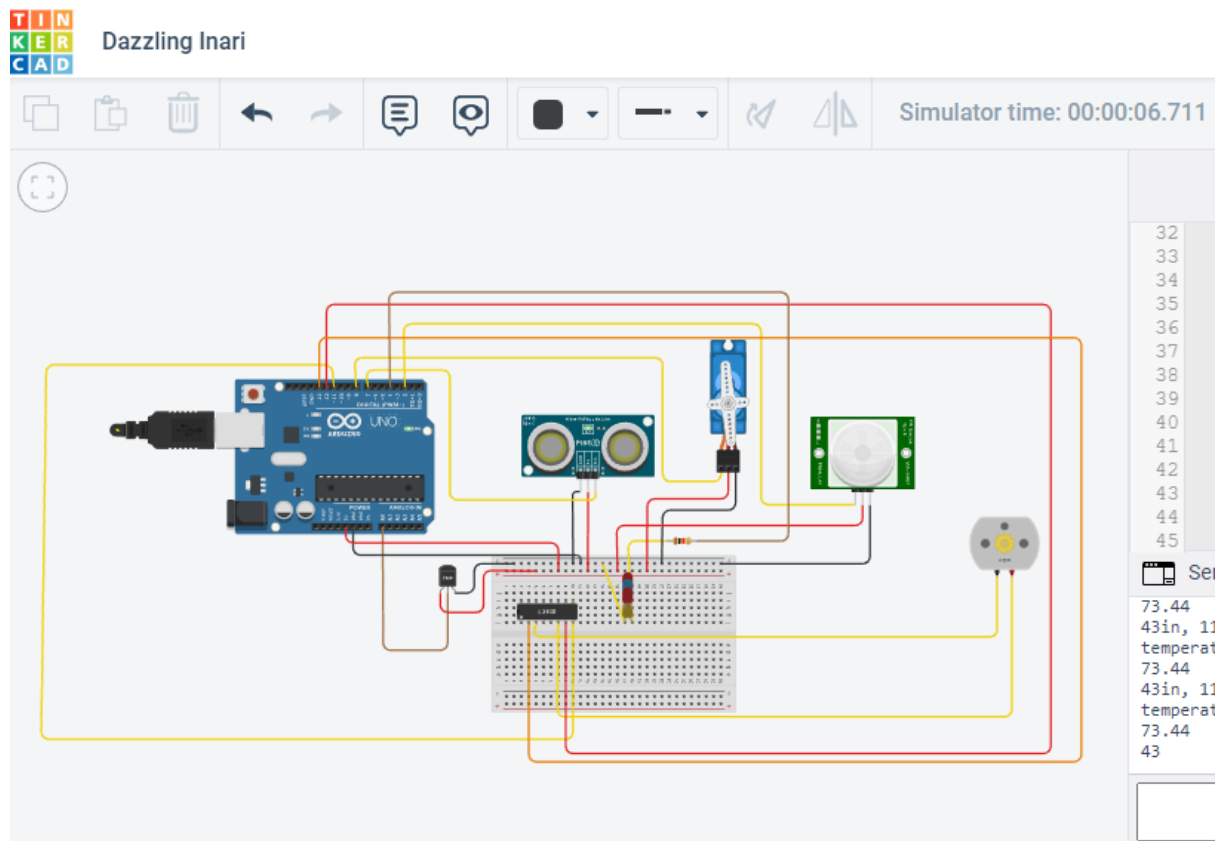
long microsecondsToInches(long microseconds) {
  return microseconds / 74 / 2;
}

```

```

long microsecondsToCentimeters(long microseconds) {
  return microseconds / 29 / 2;
}

```



TIN  
KER  
CAD

Dazzling Inari

All changes saved

Simulator time: 00:00:09.007

Code

Stop Simulation

Send To

1 (Arduino Uno R3)

```

1 #include<Servo.h>
2 const int pingPin = 7;
3 int servoPin = 8;
4
5 Servo servo;
6
7 void setup() {
8   // initialize serial communication:
9   Serial.begin(9600);
10  servo.attach(servoPin);
11  pinMode(2,INPUT);
12  pinMode(4,OUTPUT);
13  pinMode(11,OUTPUT);
14  pinMode(12,OUTPUT);
15  pinMode(13,OUTPUT);
16  pinMode(A0,INPUT);
17  digitalWrite(2,LOW);
18  digitalWrite(11,HIGH);
19
20 }
21
22 void loop() {
23
24   long duration, inches, cm;
  
```

TIN  
KER  
CAD

Dazzling Inari

All changes saved

Simulator time: 00:00:10.600

Code

Stop Simulation

Send To

1 (Arduino Uno R3)

Serial Monitor

```

temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
temperature
73.44
43in, 111cm
  
```

Send

Clear



1 (Arduino Uno R3) ▼

```
1 #include<Servo.h>
2 const int pingPin = 7;
3 int servoPin = 8;
4
5 Servo servol;
6
7 void setup() {
8     // initialize serial communication:
9     Serial.begin(9600);
10     pinMode(servoPin, OUTPUT);
```



Serial Monitor ▼

43in, 110cm  
temperature  
73.44  
43in, 111cm  
temperature  
73.44  
43in, 110cm  
temperature  
73.44  
43in, 111cm  
temperature  
73.44  
43in, 110cm

Send

Clear

