



```
#include <Keypad.h>
```

```
//Keypad is used as lock pin
```

```
//Temperature is used it to maintain room temperature
```

```
//PIR sensor is used to alert movement at night
```

```
//ultrasonic sensor is used to alert if dustbin is full
```

```
const byte ROWS = 4;
```

```
const byte COLS = 4;
```

```
int size = 0;
```

```
char hexaKeys[ROWS][COLS] = {
```

```
    {'1', '2', '3', 'A'},
```

```
    {'4', '5', '6', 'B'},
```

```
    {'7', '8', '9', 'C'},
```

```
    {'*', '0', '#', 'D'}
```

```
};
```

```
float Celsius, Fahrenheit, Kelvin;
```

```
byte rowPins[ROWS] = {9, 8, 7, 6};
```

```
byte colPins[COLS] = {5, 4, 3, 2};
```

```
Keypad customKeypad = Keypad(makeKeymap(hexaKeys), rowPins, colPins, ROWS, COLS);
```

```
void setup(){
```

```
    pinMode(3, OUTPUT); // Sets the trigPin as an OUTPUT
```

```
    pinMode(2, INPUT);
```

```
    Serial.begin(9600);
```

```
}
```

```
void GetTemp()
```

```

{
int sensorValue = analogRead(A1);
Kelvin = (((float(sensorValue) / 1023) * 5) * 100);
Celsius = Kelvin-50;
Fahrenheit = (Celsius * 1.8) +32;
}

void loop(){
int passkey[4]={0,0,0,0},ans[4]={7,4,1,2},identity[4]={1,1,1,1};
char customKey = customKeypad.getKey();

if (customKey){
Serial.println(customKey);
Serial.println(ans[size]);
if(customKey == ans[size]){
Serial.println(size);
passkey[size]=1;
}
Serial.println(passkey[size]);
size++;
}

GetTemp();
Serial.print("Celsius: ");
Serial.println(Celsius);
Serial.print("Fahrenheit: ");
Serial.println(Fahrenheit);
Serial.println();
digitalWrite(3, LOW);
delayMicroseconds(2);
// Sets the trigPin HIGH (ACTIVE) for 10 microseconds
digitalWrite(3, HIGH);

```

```
delayMicroseconds(10);  
digitalWrite(3, LOW);  
// Reads the echoPin, returns the sound wave travel time in microseconds  
long duration = pulseIn(2, HIGH);  
// Calculating the distance  
int distance = duration * 0.034 / 2; // Speed of sound wave divided by 2 (go and back)  
// Displays the distance on the Serial Monitor  
Serial.print("Distance: ");  
Serial.print(distance);  
Serial.println(" cm");  
}
```