



```
#include <LiquidCrystal.h> //LCD library
```

```
#define echo 2
```

```
#define trig 3
```

```
float duration; // time taken by the pulse to return back
```

```
float distance;
```

```
int sensor_Input;
```

```
float temp;// oneway distance travelled by the pulse
```

```
LiquidCrystal lcd(13, 12, 11, 10, 9, 8);//lcd(RS,EN,D4,D5,D6,D7)
```

```
void setup() {
```

```
    pinMode(trig, OUTPUT);
```

```
    pinMode(echo, INPUT);
```

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

```
    lcd.begin(16, 2);
```

```
}
```

```
void loop() {  
  
    time_Measurement();  
    distance = duration * (0.0343) / 2; // calculate the oneway distance travelled by the pulse  
    display_distance();  
    measure_Temp();  
  
}
```

```
void time_Measurement()  
{ //function to measure the time taken by the pulse to return back  
    digitalWrite(trig, LOW);  
    delayMicroseconds(2);  
  
    digitalWrite(trig, HIGH);  
    delayMicroseconds(10);  
    digitalWrite(trig, LOW);  
  
    duration = pulseIn(echo, HIGH);  
}
```

```
void measure_Temp()  
{  
    sensor_Input = analogRead(A0);  
    temp = (float)sensor_Input / 1024;  
    temp = temp * 5;  
    temp = temp - 0.5;  
    temp = temp * 100;  
    Serial.print("Temp in C: ");  
    Serial.print(temp);  
    Serial.println();  
}
```

```
}  
  
void display_distance()  
{ //function to display the distance on LCD/Serial Monitor  
  Serial.print("Distance in Cm: ");  
  Serial.print(distance);  
  Serial.println();  
  delay(1000);  
}
```