



```
#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);
}
```