



```
#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);  
}
```