

MaRS Report

# # Task-2.

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# Aim:-

To make an object counter circuit using IR sensor and LCD display.

Working:-

* When the object passes the IR, the IR transmitter reflects the IR waves and the IR receiver receives it and will be taken as an input to increase the count.
* Since this Counter machine is only one way, i.e like the object is travelling in the conveyor belt, so. There is no need to worry that the same object will be counted twice.

# Components

| Name | Quantity |
| --- | --- |
| Arduino Uno Rs | 1 |
| IR sensor | 1 |
| LCD display | 1 |
| Breadboard | 1 |

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# Thought process (or Logic):-

* The IR sensor first senses the object which will come in front of it and increases the count, but it will not display the count until the object is moved or removed as the same object may be counted multiple times if that condition was not implemented.

# Applications:-

* This Counter can be used in the industries for counting the products manufactured where the movement of the conveyor belt is only one way and to keep record of it.

# Procedure:-

## Precaution: Check all the components and wires are in working condition and then start the procedure .

* First connect the LCD screen to the respective power source (say 5V) and the ground and connect the SDC pin to A4 and SCL pin to A5. AND check whether the LCD display is glowing or not (if not check your connections).
* Second, connect the IR sensor to the respective power source (say 5V) and the ground and connect the out pin to some digital pin as input, if it is a 3 pin IR sensor. if it is 4 pin we have to connect the two to the digital pin, one as an output and the other as input.
* Finally connect the arduino to the laptop and the code to make the counter.

# Errors:-

For me the LCD display did not work. The problem might be:

* The address of the I2C might be wrong.

# Resources used:-

## Videos:-

* [How to Use I2C LCD with Arduino | Very Easy Arduino LCD I2C Tutorial | Arduino 16x2 LCD I2C Tutorial](https://www.youtube.com/watch?v=CvqHkXeXN3M)
* <https://www.youtube.com/shorts/ejnoX7YWDx0>

## Others:-

* <https://github.com/johnrickman/LiquidCrystal_I2C>
* <https://projecthub.arduino.cc/abhilashpatel121/using-ir-sensor-tcrt-5000-with-arduino-60cc92>
* <https://www.circuitmagic.com/arduino/16x2-lcd-display-with-arduino-code-connection/>