# Group 15

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## Assignment 2 Report

### Interrupt routine explanation:

We have written code for two interrupt routines for each sensor (In and out). We have used a state variable which is initially set to 0. When the outer sensor signal is broken it saves the state and set it to 1, after this state if inner sensor's signal is broken it increments the counter and set the state back to 0. If inner sensor's signal is broken first it goes into the state 2 and when the Outer sensor's signal is broken it decrements the counter and set the state to 0.

### Problems:

We were facing the problem where sensor's signal break was reported twice because the physical interruption on sensor created the glitches thus producing multiple interrupts. As far as we have searched for this problem it's created due a transcient state in which it will fluctuate LOW-HIGH for a short period of time.

### Implementation/fault toleration:

One method of taking care of this issue is utilizing a capacitor corresponding to the load. Another "simpler" way would be finished by programming. The thought is to set a fixed subjective time where you don't permit new interferes. We used millis() function to cater this particular problem which can be seen in the code as well.