Khulna University of Engineering & Technology

Department of Electronics & Communication Engineering

Course title: Digital Electronics & Logic Circuits Laboratory

Course No. :ECE 2104

Project Title: Ensuring safety of a lift using digital logic circuit.

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Project Title

Ensuring safety of a lift using digital logic circuit

Abstract

Lift is hugely used in urban areas in day-to-day life. Sometimes inconvenience occurred due to many factors. Among them overweight is vital.To get rid of the problem we need a system which can count people that are present in lift and can alert system when the fixed number of people crosses. After getting the alarm our system will shut the door off. Thus the overweight problem will be solved and this system can be installed vastly without much difficulty and it would be cost efficient.

Objectives

1. Counting 0-5 people in the lift.
2. Alerting and closing the door after 5 people entering into lift.

Variable

Input:

i)Number of people(0-5) entering the lift.

Output:

i)Display total no. of people(0-5) in 7 segment display.

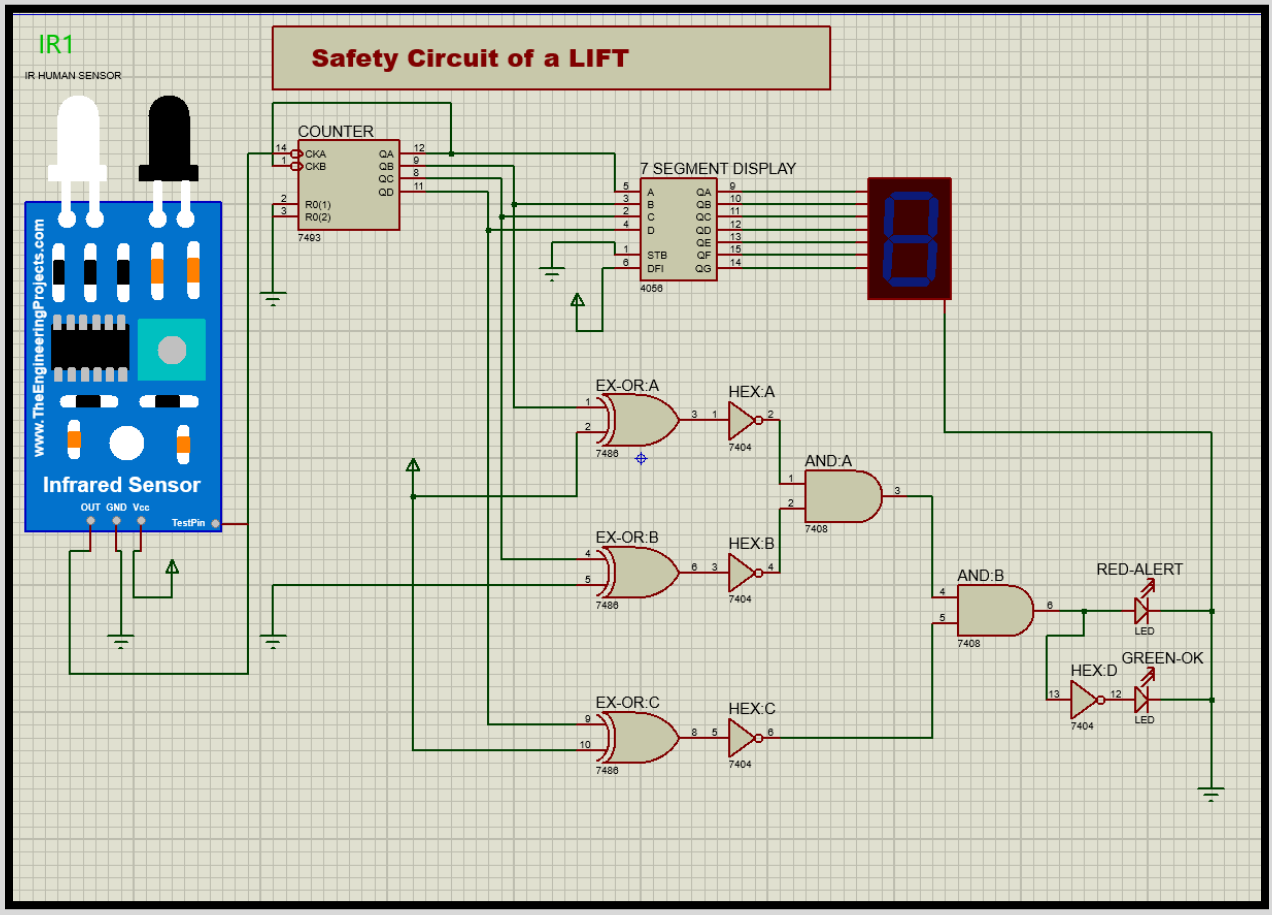
ii)Indicator (green led) when less than 5 people entered.

iii)Alarm (red led= limit exceeds/buzzer) when 5 people entered.

Equipments

1. IC 7493 is a 4 bit binary counter IC
2. Passive Infrared (PIR) sensor
3. 7 segment display
4. Basic logic gates(X-OR,AND,NOT)
5. DC power supply
6. LED(Red,Green)

Circuit Diagram



Discussion

Due to insufficient time we were unable to make counter circuit along with 7 segment display.To make it more real life effective we had to use arduino to make PIR sensor work.However the formula of the circuit forms the basic shape of the project and we have done it successfully .