# Welcome to my Presentation

# **Presentation on** Digital Logic Design


## **Presented By:**

Name : Tushar Sarkar

Student ID: 18CSE035

Second Year First Semester

Department of CSE,BSMRSTU,

Gopalganj-8100.

# Outline

- Question
- $F_1$ And $F_2$ Determine
- $F_1'$ And $F_2'$ Determine
- PLA Program Table
- Logic Diagram

# My Question is 5

Implementation of a circuit with a PLA having three inputs, four products terms and two outputs for the following functions:

$$F_1 = \sum(0,1,2,4)$$

$$F_2 = \sum(0,5,6,7)$$

# $F_1$ and $F_2$ Determination

| A \ BC | 00 | 01 | 11 | 10 |
|---|---|---|---|---|
| 0 | 1 | 1 | | 1 |
| 1 | 1 | | | |

$F_1 = A'B' + A'C' + B'C'$

| A \ BC | 00 | 01 | 11 | 10 |
|---|---|---|---|---|
| 0 | 1 | | | |
| 1 | | 1 | 1 | 1 |

$F_2 = A'B'C' + AC + BC$

# $F_1'$ and $F_2'$ Determination

| A \ BC | 00 | 01 | 11 | 10 |
|---|---|---|---|---|
| 0 | | | 0 | |
| 1 | | 0 | 0 | 0 |

$F_1' = (AB + AC + BC)$

$F_1 = (AB + AC + BC)'$

| A \ BC | 00 | 01 | 11 | 10 |
|---|---|---|---|---|
| 0 | | 0 | 0 | 0 |
| 1 | 0 | | | |

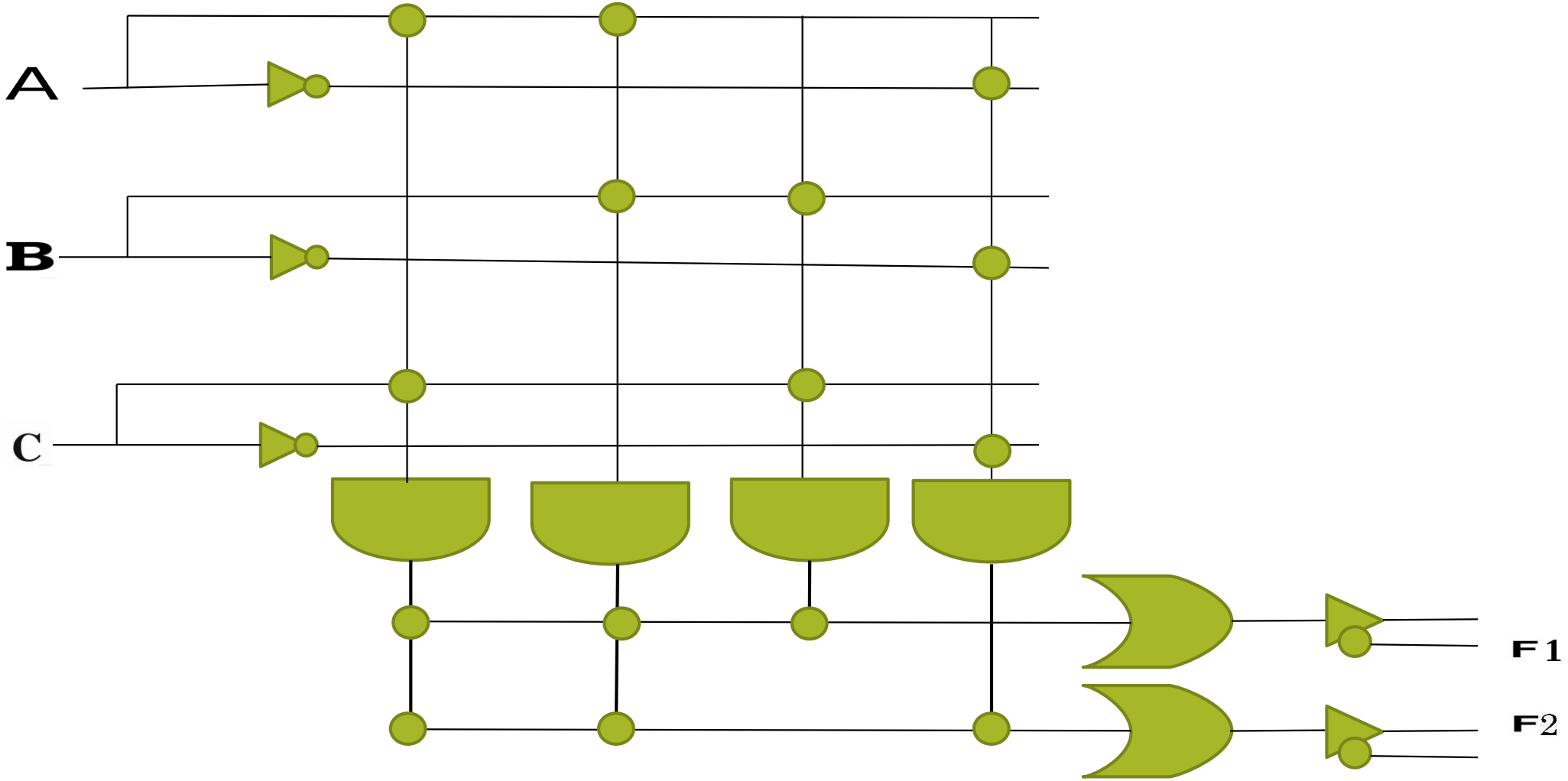
$F_2' = (AB'C' + A'C + A'B)$

$F_2 = (AB'C' + A'C + A'B)'$

# PLA Program Table

| Product Terms | INPUT | | | OUTPUT | |
|---|---|---|---|---|---|
| | A | B | C | $F_1$ | $F_2$ |
| AB | 1 | 1 | - | 1 | 1 |
| AC | 1 | - | 1 | 1 | 1 |
| BC | - | 1 | 1 | 1 | - |
| $A'B'C'$ | 0 | 0 | 0 | 0 | 1 |
| | | | | C | T | T/C |

# Logic Diagram



# Thank You