

$$\textcircled{n} \xrightarrow{2} \textcircled{2} \rightarrow \textcircled{1}$$



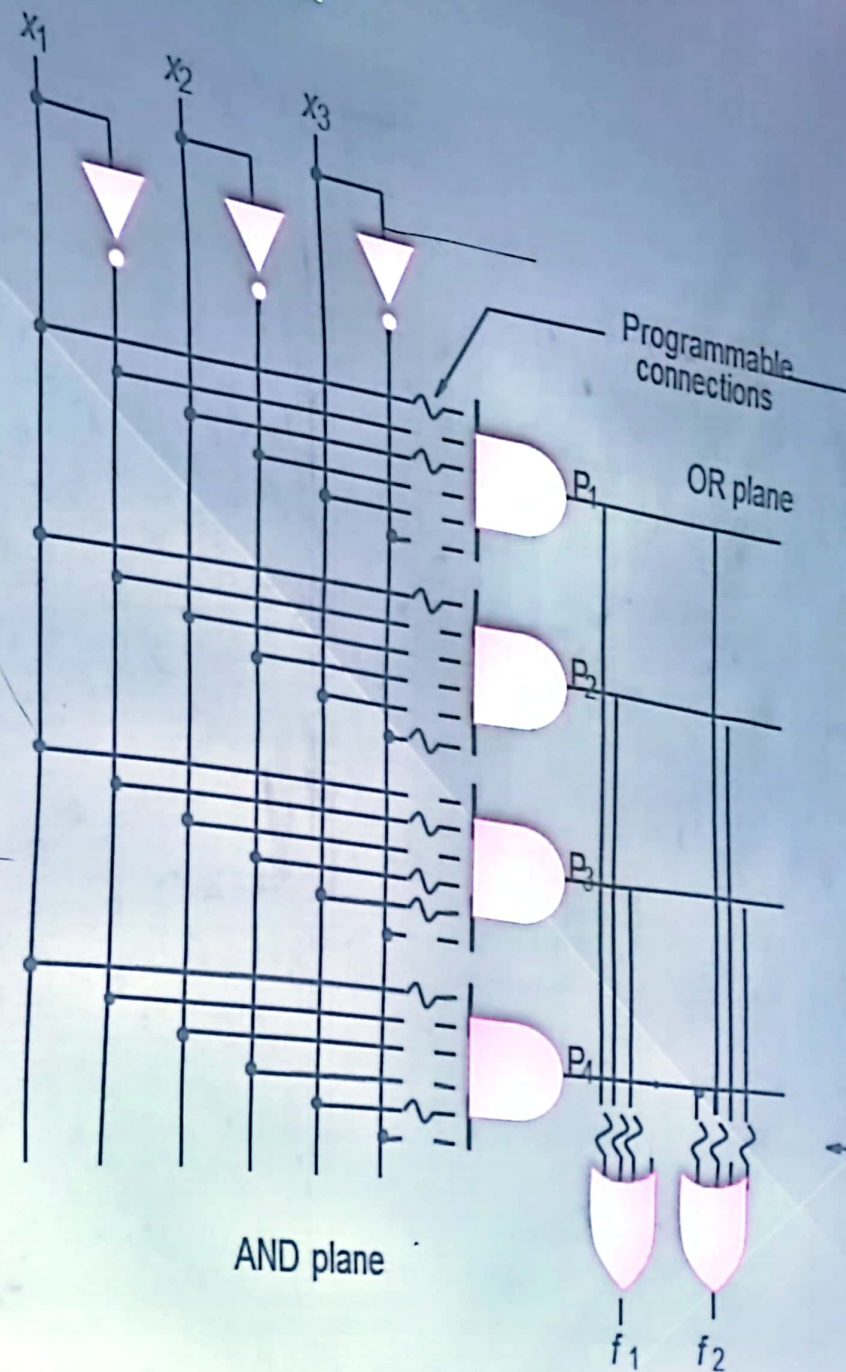
| $\textcircled{1}$ | x | y | $\textcircled{2}$ |
|-------------------|-----|-----|-------------------|
| | 0 | 0 | 0 |
| | 0 | 1 | 0 |
| | 1 | 0 | 0 |
| | 1 | 1 | 1 |

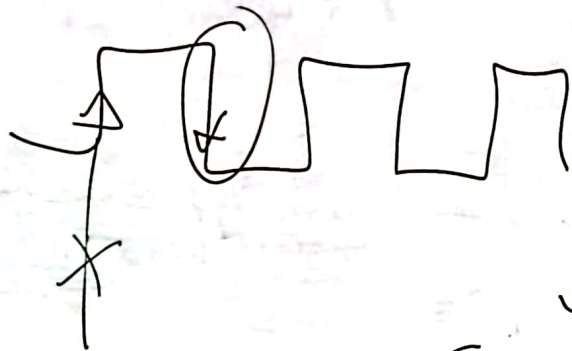
$$\textcircled{2} = \bar{x} \bar{y} (+) x y$$

OR
AND
NOT

$$f_1 = x_1x_2 + x_1x_3' + x_1'x_2'x_3$$

$$f_2 = x_1x_2 + x_1'x_2'x_3 + x_1x_3$$



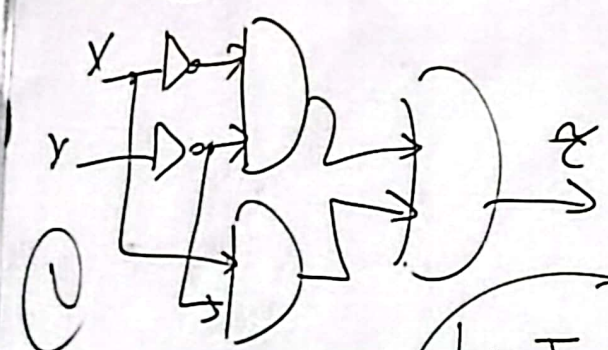


digital. circuit

Comp. ot

Seq. ot

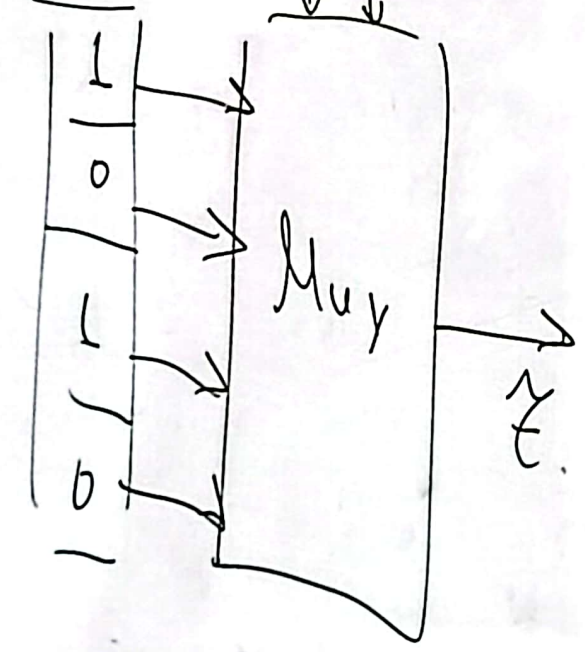
Logic Gates



| x | y | z |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

LUT

SRAM



2 bits
10 ≤ 2

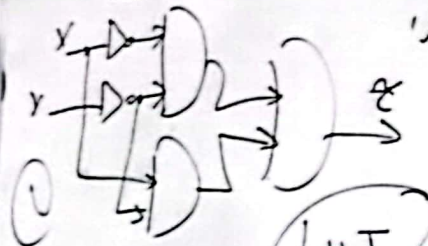


0
3

| x | y |
|---|---|
| 0 | 0 |
| 0 | 1 |
| 1 | 0 |
| 1 | 1 |

$\frac{n}{2} \rightarrow$

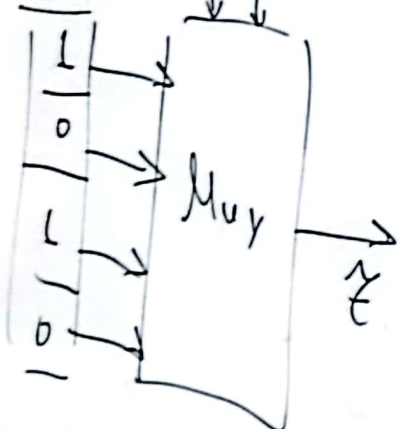
Logic Gates



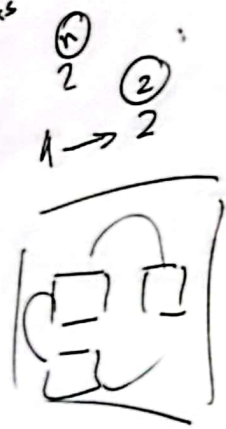
| x | y | z |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

LUT

SRAM



bits
 2^n
 $10 \leq 2^n$
 10 bits



0
 3

$$\frac{n}{2} \rightarrow 2^2 \rightarrow 4$$

| x | y | z |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |