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Semester: 6th

Subject: DLD Lab-6

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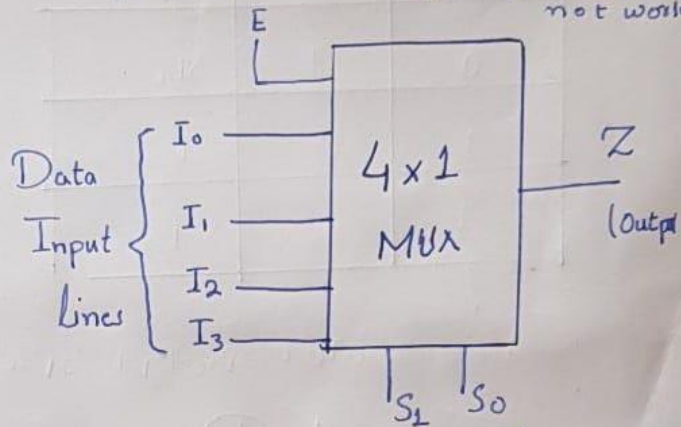
Lab 6: Multiplexer (4x1)

Observation Table:

Input Lines: I_3, I_2, I_1, I_0 select Lines: S_1, S_0 Output Variable: Z

(E must be 1)

if enable (E) is zero it will not work



Find Select lines

$m = \text{Select lines}$

$$n = 4$$

$$m = \log_2 n$$

$$m = \log_2 4$$

$$m = \log_2 2^2 \quad \because \log_a a = 1$$

$$m = 2 \log_2 2$$

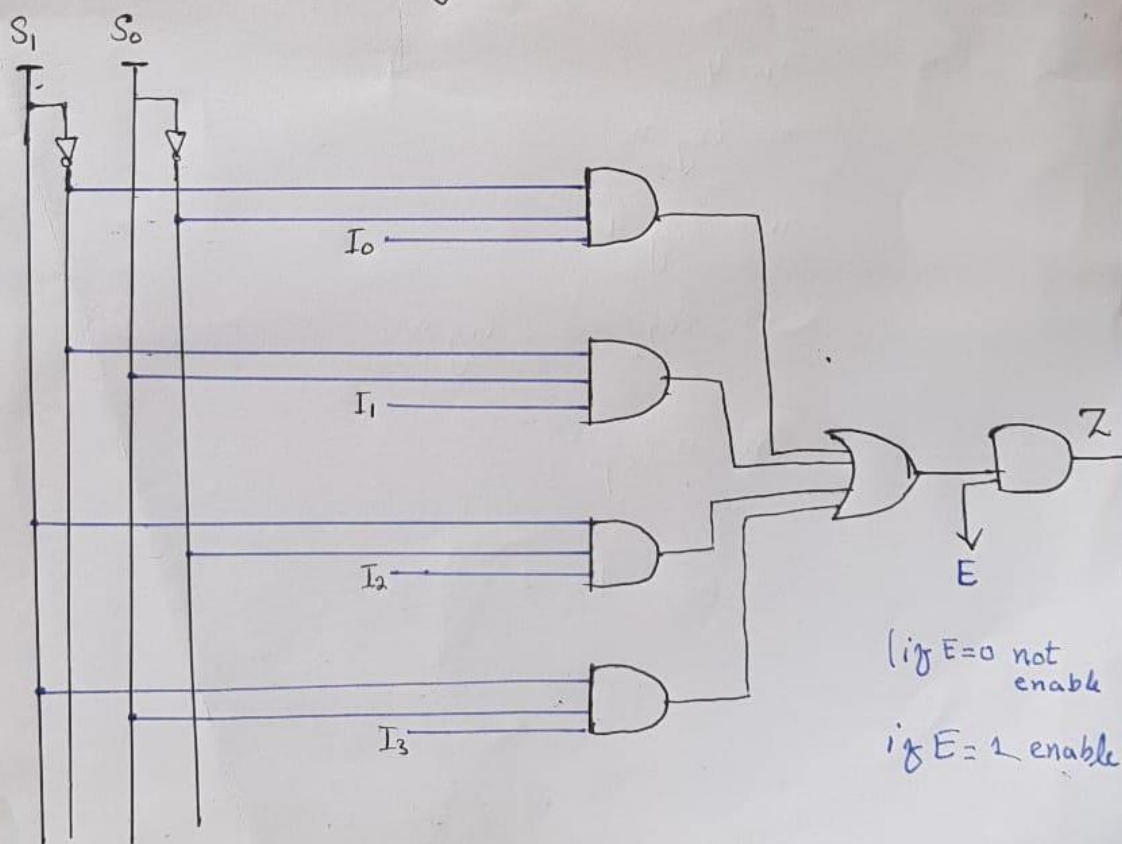
$$m = 2 \cdot 1 = 2$$

Observation Table

| Select lines | | Output |
|--------------|-------|--------|
| S_1 | S_0 | Z |
| 0 | 0 | I_0 |
| 0 | 1 | I_1 |
| 1 | 0 | I_2 |
| 1 | 1 | I_3 |

$$Z = \bar{S}_1 \bar{S}_0 I_0 + \bar{S}_1 S_0 I_1 + S_1 \bar{S}_0 I_2 + S_1 S_0 I_3$$

Circuit Diagram



if $E=0$ not enable

if $E=1$ enable