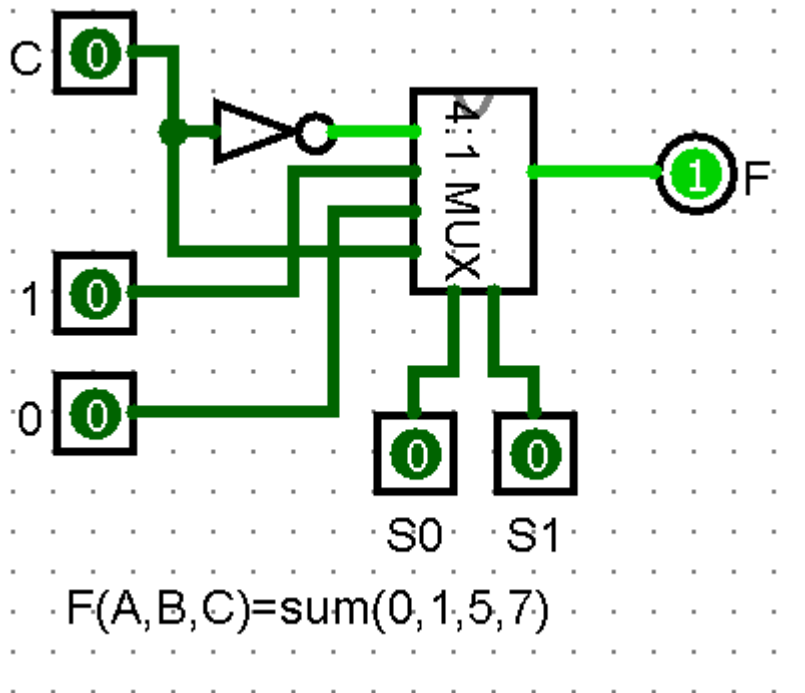


Md. Ishtiaq Ahamed Fahim
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Lab-7

4:1 MUX; $F(A, B, C) = \sum(0, 1, 5, 7)$:

Logisum:



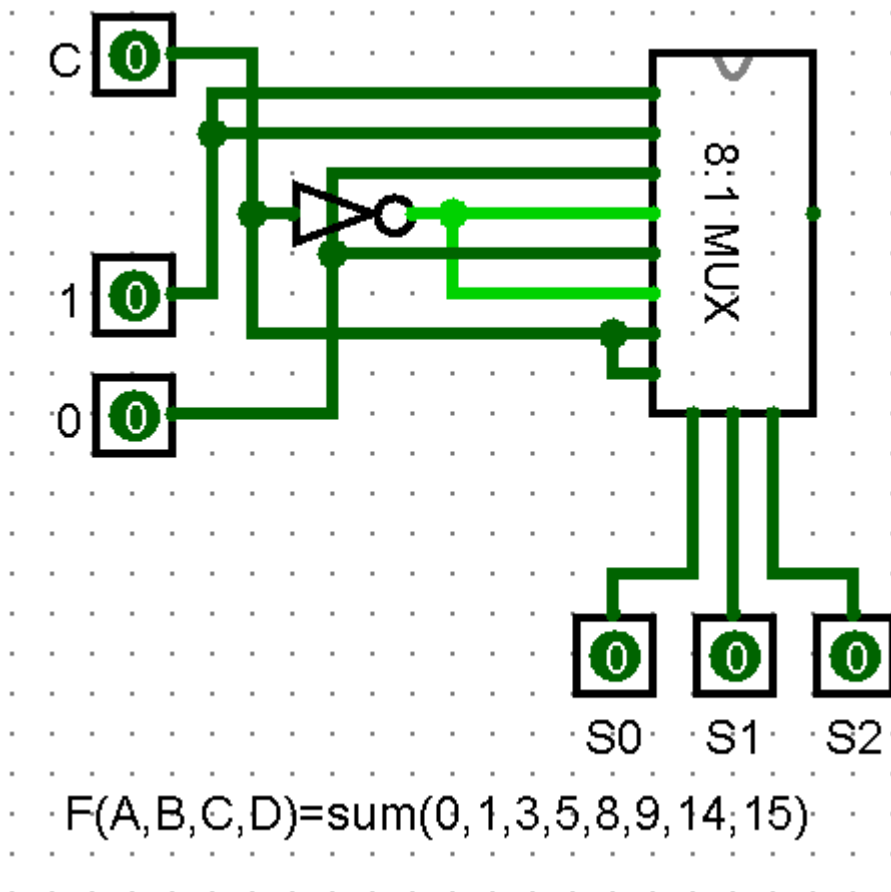
Proof and Discussion:

| A | A | F |
|---|---|---|
| 0 | 0 | 1 |
| 1 | 1 | 1 |
| 2 | 0 | 0 |
| 3 | 1 | 1 |

$f(A, B, C) = \sum(0, 1, 5, 7)$

$F(A, B, C, D) = \sum(0, 1, 3, 5, 8, 9, 14, 15)$

Logisum:



Proof and Discussion:

$$E: 1 \text{ Mut}$$

| s_1 | s_2 | s_3 | |
|-------|-------|-------|-------|
| 0 | 0 | 0 | I_1 |
| 0 | 0 | 1 | I_2 |
| 0 | 1 | 0 | I_3 |
| 0 | 1 | 1 | I_4 |
| 1 | 0 | 0 | I_5 |
| 1 | 0 | 1 | I_6 |
| 1 | 1 | 0 | I_7 |
| 1 | 1 | 1 | I_8 |

$$f(A, B, C, D) = \Sigma(0, 1, 3, 5, 8, 9, 14, 15)$$

| \overline{A} | A | F |
|----------------|-----|----------------|
| ① | ② | 1 |
| ② | ③ | 1 |
| 2 | 10 | 0 |
| ③ | 11 | \overline{A} |
| 4 | 12 | 0 |
| ⑤ | 13 | \overline{A} |
| 6 | ④ | A |
| 7 | ⑤ | A |