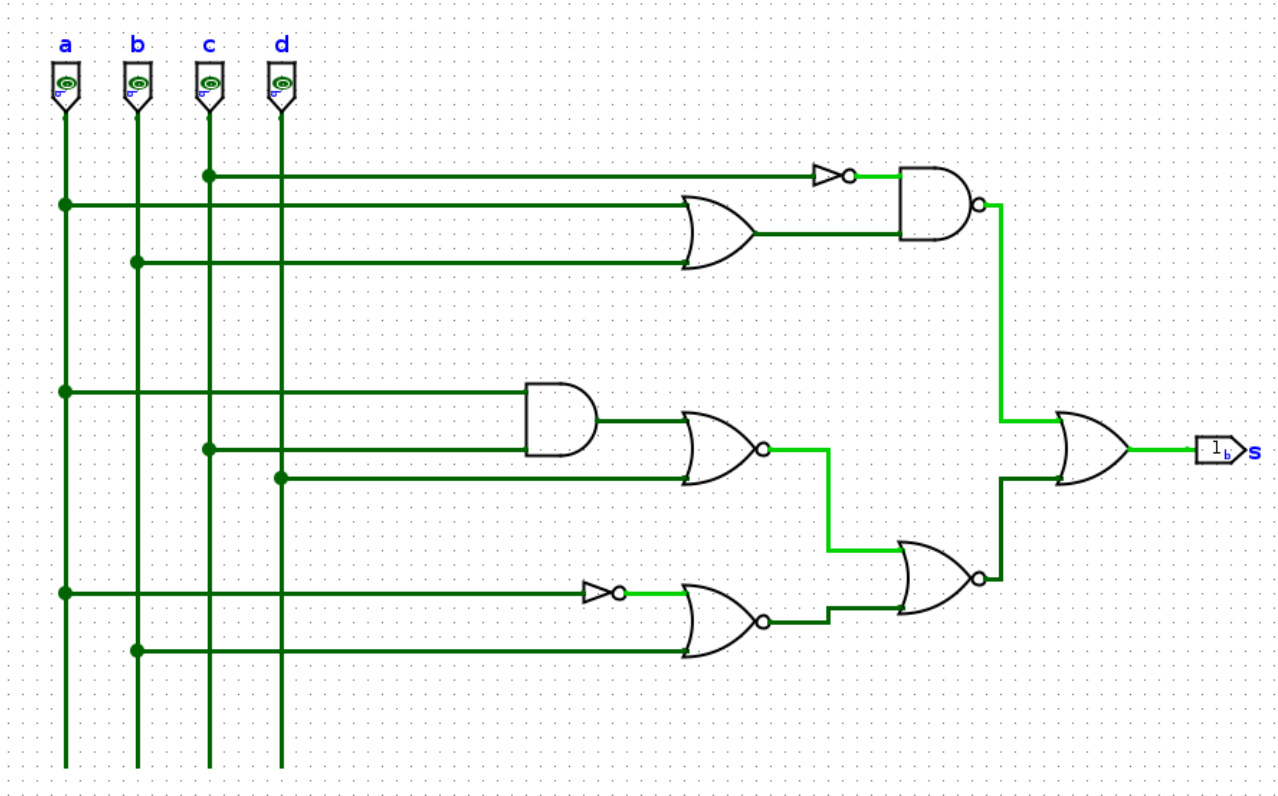


ATIVIDADE 4 – CIRCUITOS DIGITAIS

ANDREW GABRIEL GOMES

Figura 1.1:

1)A)



1)b)

Simplificação Algébrica - Figura 1.1

$$\begin{aligned} S &= \overline{(A \cdot C)} + D + \overline{A} + B + \overline{C} \cdot (A + B) \\ &= (\overline{A} + \overline{C}) + D + \overline{A} + B + C \cdot (\overline{A} + B) \\ &= (A + C + D + \overline{A} + B) + C \cdot (\overline{A} + B) \\ &= (1 + B + D) + C \cdot (\overline{A} + B) \\ &= 1 + C \cdot (\overline{A} + B) \\ &= \overline{C} + C \cdot (\overline{A} + B) \\ &= \overline{C} + C \cdot \overline{A} + C \cdot B \\ &= \overline{C} + C \cdot \overline{A} + C \cdot B \end{aligned}$$

→ $S = \overline{C} + C \cdot \overline{A} + C \cdot B$

1)c)

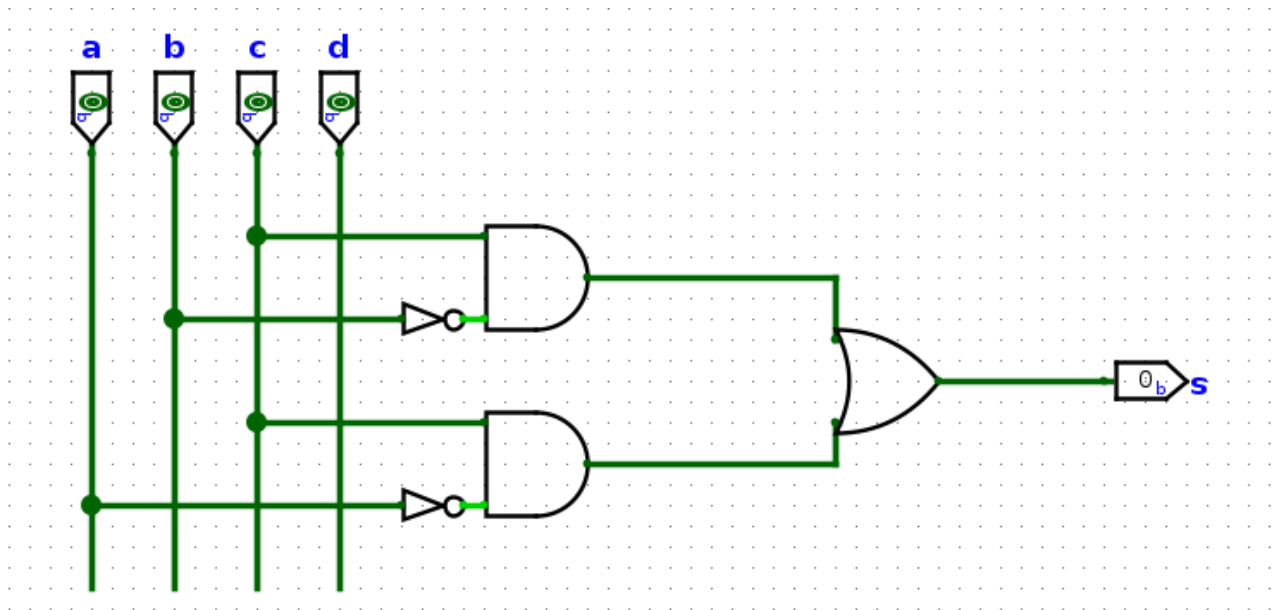
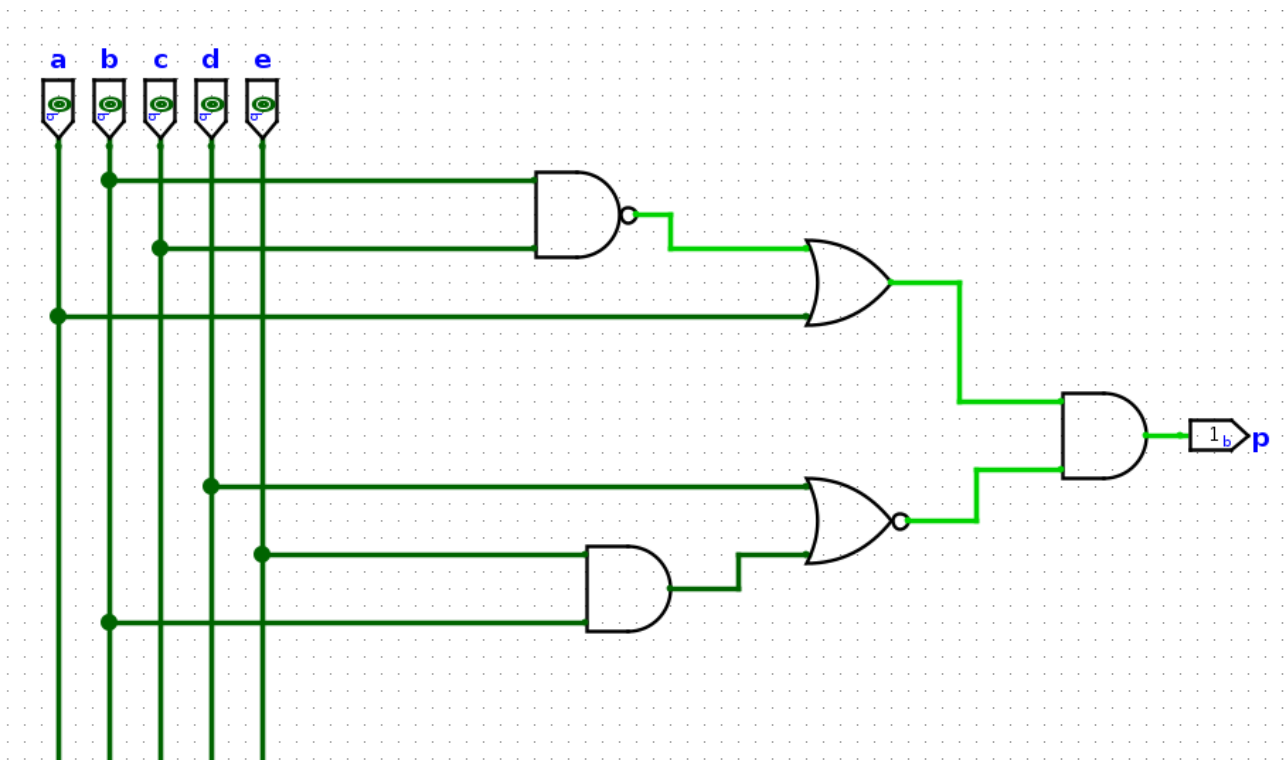


Figura 1.2:

1)a)



1)b)

Simplificação Algébrica - Figura 1.2

$$P = (A + (B \cdot C)) \cdot (\overline{D + B \cdot E})$$

$$(A + \overline{B} + \overline{C}) \cdot (\overline{D} + \overline{B \cdot E})$$

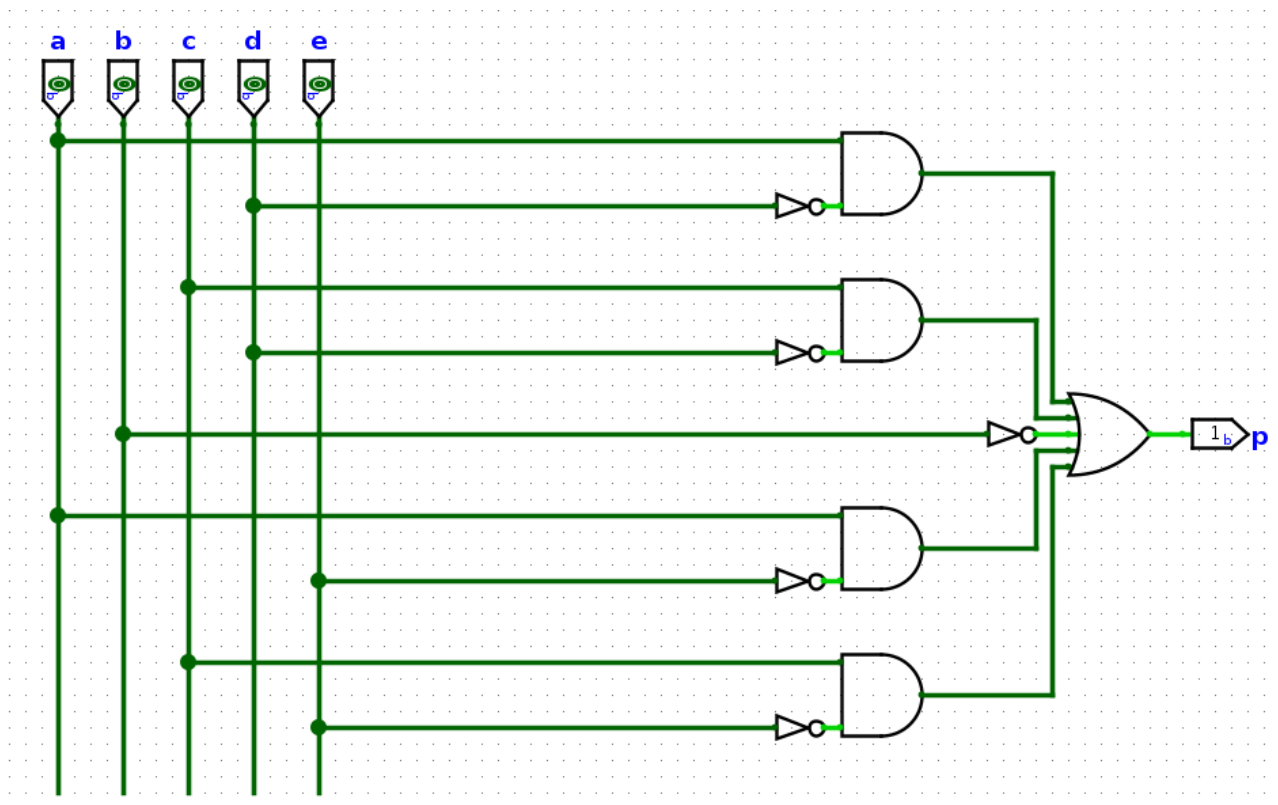
$$A\overline{D} + A\overline{B} + A\overline{C} + \overline{B}\overline{D} + \overline{B}\overline{B} + \overline{B}\overline{E} + \overline{C}\overline{D} + \overline{C}\overline{B} + \overline{C}\overline{E}$$

$$A\overline{D} + A\overline{B} + A\overline{C} + \overline{B}\overline{D} + \overline{B} + \overline{B}\overline{E} + \overline{C}\overline{D} + \overline{C}\overline{B} + \overline{C}\overline{E}$$

$$\overline{B}(A + \overline{D} + \overline{E} + \overline{C}) + A\overline{D} + \overline{C}\overline{D} + A\overline{C} + \overline{C}\overline{E}$$

$$\overline{B} + A\overline{D} + \overline{C}\overline{D} + A\overline{C} + \overline{C}\overline{E}$$

1)c)



2)

2) manipular p/ ter apenas portas Nand e not

$$S = (\overline{B} \cdot \overline{D}) + (\overline{A} \cdot \overline{C}) + (\overline{B} \cdot C \cdot \overline{D})$$

$$S = (\overline{B} \cdot \overline{D}) + (\overline{A} \cdot \overline{C}) + (\overline{B} \cdot C \cdot \overline{D})$$

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$$S = (\overline{B} \cdot \overline{D}) \cdot (\overline{A} \cdot \overline{C}) \cdot (\overline{B} \cdot C \cdot \overline{D})$$

$$S = (\overline{B} \cdot \overline{D}) \cdot (\overline{A} \cdot \overline{C}) \cdot (\overline{B} \cdot C \cdot \overline{D})$$