

Simplificação de circuitos

$$S1 = (\bar{A} \cdot \bar{B} \cdot \bar{C}) + (\bar{A} \cdot B \cdot \bar{C}) + (\bar{A} \cdot B \cdot C) + (A \cdot \bar{B} \cdot \bar{C}) + (A \cdot B \cdot \bar{C})$$

000 1-						
001 0	A	BC	00	01	11	10
010 1-	0		1	0	1	1
011 1-	1		1	0	0	1
100 1-						
101 0	A		1	0	1	1
110 1	A		1	0	0	1
111 0						

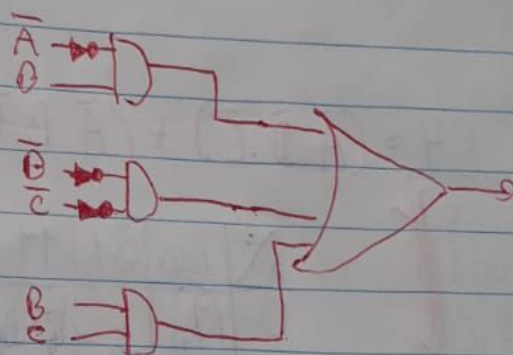
$$P_1 A = 0/1; B = 0; C = 0$$

$$P_2 A = 0; B = 1; C = 0/1$$

$$P_3 A = 0/1; B = 1; C = 0$$

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

Circuito S1



$$S2 = (\bar{A} \cdot \bar{B} \cdot \bar{C}) + (\bar{A} \cdot \bar{B} \cdot C) + (\bar{A} \cdot B \cdot \bar{C}) + (\bar{A} \cdot B \cdot C) + (A \cdot B \cdot C)$$

000 1-	A	BC	00	01	11	10
001 1-	0		1	1	1	1
010 1-	1		0	0	1	0
011 1-						
100 0						
101 0						
110 0						
111 1-						

$$P_1 = \bar{A}; P_2 = (B \cdot C)$$

Circuito S2 $S = \bar{A} + (B \cdot C)$

011 1-

100 0

101 0

110 0

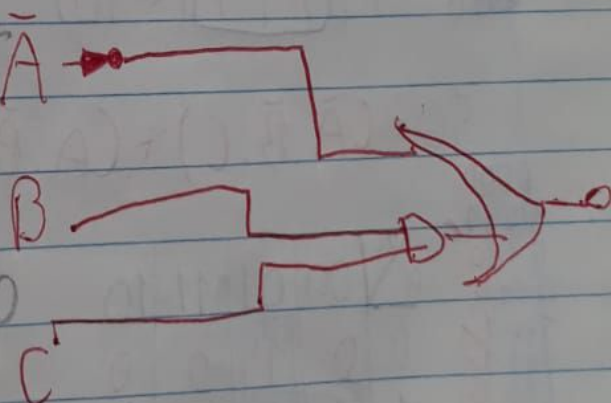
111 1-

~~PA~~

$$P_1 A = 0; B = 0/1; C = 1$$

$$P_2 A = 0/1; B = 1; C = 0$$

$$P_3 A = 1; B = 0/1; C = 0$$



$$S_3 = (\bar{A}.B.C) + (\bar{A}.B.\bar{C}) + (A.\bar{B}.C) \quad S = (\bar{A}.B) + (B.\bar{C}) + (A.\bar{C})$$

000 0

001 0

010 1

011 1

100 1

101 0

110 1

111 0

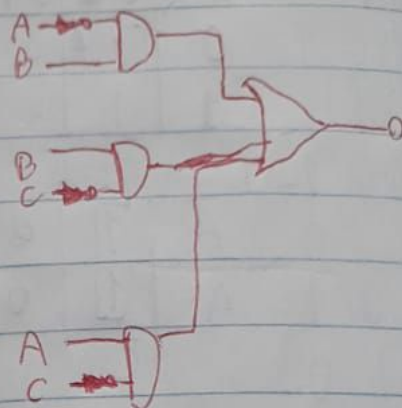
A \ BC	00	01	11	10
0	0	0	1	1
1	1	1	0	1

$$P_1 A = 0, B = 1, C = 1/0$$

$$P_2 A = 0, B = 1, C = 0$$

$$P_3 A = 1, B = 0, C = 0$$

Circuito S3:



$$S_4 = (\bar{A}.\bar{B}.\bar{C}) + (\bar{A}.B.\bar{C}) + (\bar{A}.B.C) + (A.\bar{B}.\bar{C}) + (A.B.C)$$

000 1

001 0

010 1

011 1

100 0

101 1

110 0

111 1

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

$$P_1 A = 0, B = 0, C = 0 (\bar{A}.\bar{B}.\bar{C})$$

$$P_2 A = 0, B = 1, C = 0 (\bar{A}.B.\bar{C})$$

$$P_3 A = 1, B = 1, C = 1 (A.B.C)$$

$$S = (\bar{A}.\bar{B}.\bar{C}) + (\bar{A}.B.\bar{C}) + (A.B.C)$$

Circuito S4:



$$S_5 = (\bar{A}.\bar{B}.\bar{C}) + (\bar{A}.\bar{B}.C) + (\bar{A}.B.C) + (A.\bar{B}.\bar{C}) + (A.\bar{B}.C) + (A.B.\bar{C})$$

000 1

001 1

010 1

011 0

100 1

101 1

110 1

111 0

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

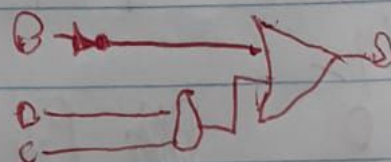
$$P_1 A = 0, B = 0, C = 0 (\bar{A}.\bar{B}.\bar{C})$$

$$P_2 A = 0, B = 1, C = 0 (\bar{A}.\bar{B}.C)$$

$$P_3 A = 1, B = 0, C = 0 (A.\bar{B}.\bar{C})$$

$$S = \bar{B} + (B.\bar{C})$$

Circuito S5:



$$S_6 = (\bar{A}.\bar{B}.C) + (A.\bar{B}.\bar{C}) + (A.\bar{B}.C) + (A.B.\bar{C})$$

000 0

001 1

010 0

011 0

100 1

101 1

110 1

111 0

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

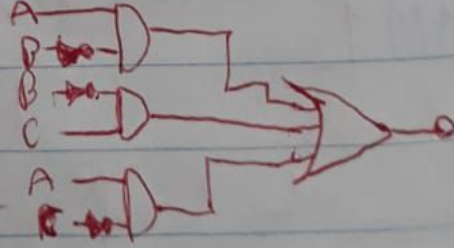
$$P_1 A = 0, B = 0, C = 1 (\bar{A}.\bar{B}.C)$$

$$P_2 A = 1, B = 0, C = 1 (A.\bar{B}.C)$$

$$P_3 A = 1, B = 1, C = 0 (A.B.\bar{C})$$

$$S = (\bar{A}.\bar{B}) + (\bar{B}.C) + (A.\bar{C})$$

Circuito S6:



$$S7 = (\bar{A} \cdot \bar{B} \cdot C) + (\bar{A} \cdot B \cdot \bar{C}) + (A \cdot \bar{B} \cdot \bar{C}) + (A \cdot B \cdot \bar{C}) + (A \cdot B \cdot C)$$

0000

0011

0101

0110

1001

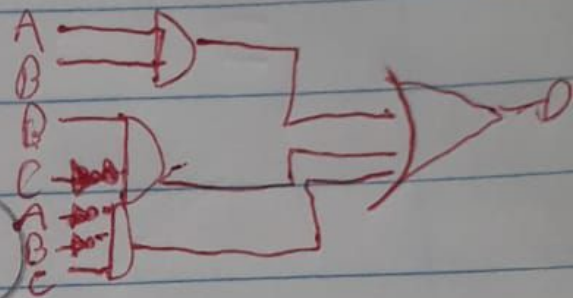
1010

1101

1111

A \ BC	00	01	11	10
0	0	1 ^I	0	1 ^{P1}
1	1	0	1 ^{P2}	1

Circuito S7:



$$P1 = A = 0, 1; B = 1; C = 0 (B\bar{C})$$

$$P2 = A = 1, B = 1, C = 0 (A \cdot B)$$

$$I = A = 0, B = 0, C = 1$$

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