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Lista de atividades

Note que nem todos exercícios da lista foram realizados (alguns não estão inteiros também), assim como a formatação está como esboço. Isso se deve ao fato que durante o estudo, não tinha ciência que o conteúdo teria o objetivo de ser enviado. Da mesma forma, não encontrei todas folhas que utilizei para os realizar.

Portanto segue as que encontrei:

The image shows a handwritten Karnaugh map and a truth table for a logic circuit. The Karnaugh map is a 4x4 grid with variables Q_1, Q_2, Q_3 and a function S . The truth table lists the values of Q_1, Q_2, Q_3 and S for all possible combinations. The Karnaugh map is used to derive the simplified Boolean expression for S .

Karnaugh Map:

$Q_1 \backslash Q_2 Q_3$	00	01	11	10
00	0	0	0	0
01	0	0	0	0
11	0	0	0	0
10	0	0	0	0

Truth Table:

Q_1	Q_2	Q_3	S
0	0	0	0
1	0	0	0
0	0	1	0
1	0	1	0
0	1	0	0
1	1	0	0
0	1	1	0
1	1	1	0
0	1	0	1
1	0	0	1

Boolean Expressions:

$$S = Q_1$$
$$Q_1' = E \bar{Q}_1 Q_2 Q_3$$
$$= E Q_2 Q_3$$
$$Q_2' = \bar{E} \bar{Q}_1 \bar{Q}_2 Q_3 + E \bar{Q}_1 Q_2 \bar{Q}_3$$
$$= \bar{Q}_1 (\bar{E} \bar{Q}_2 Q_3 + E Q_2 \bar{Q}_3)$$
$$Q_3' = \bar{E} \bar{Q}_1 \bar{Q}_2 Q_3 + E \bar{Q}_1 \bar{Q}_2 Q_3 + E \bar{Q}_1 Q_2 Q_3 + E Q_1 \bar{Q}_2 Q_3$$
$$= \bar{E} \bar{Q}_1 \bar{Q}_2 Q_3 + E \bar{Q}_1 \bar{Q}_2 Q_3 + E \bar{Q}_1 Q_2 Q_3 + E Q_1 \bar{Q}_2 Q_3$$
$$= \bar{E} \bar{Q}_1 \bar{Q}_2 Q_3 + E \bar{Q}_1 \bar{Q}_2 Q_3 + E \bar{Q}_1 Q_2 Q_3 + E Q_1 \bar{Q}_2 Q_3$$
$$= \bar{E} \bar{Q}_1 \bar{Q}_2 Q_3 + E \bar{Q}_1 \bar{Q}_2 Q_3 + E \bar{Q}_1 Q_2 Q_3 + E Q_1 \bar{Q}_2 Q_3$$



$$2^6 + 2^5 + 2^2 + 1$$

$$64 + 32 + 8 + 1 = 105$$

A 10
B 11
C 12
D 13
E

151

69

2 0
1 1
X
X

11100001,001

0,75 L

150

300

600

64

5,075

E 11

9 → 101,0001001

200

400

REPRESENTAÇÃO BINÁRIO

800

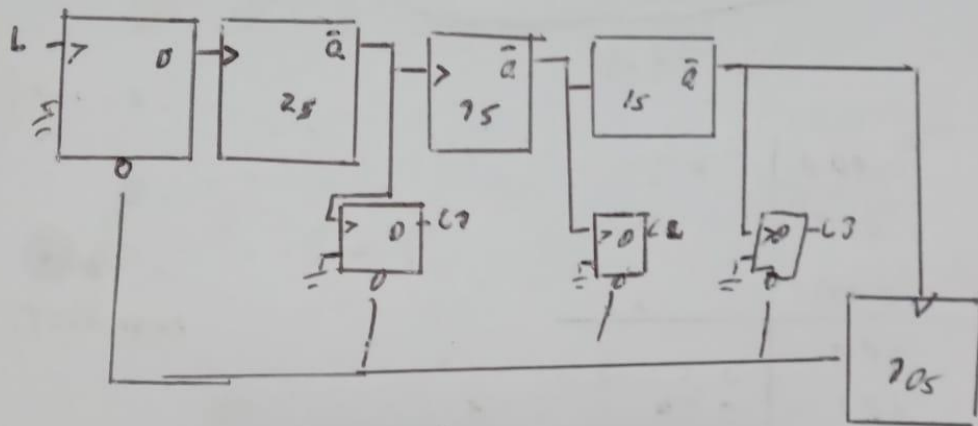
9 110 010001001

9

$$\text{OVERFLOW} = 0 \ 1 \ 11 \ 111111 = \text{overflow}$$

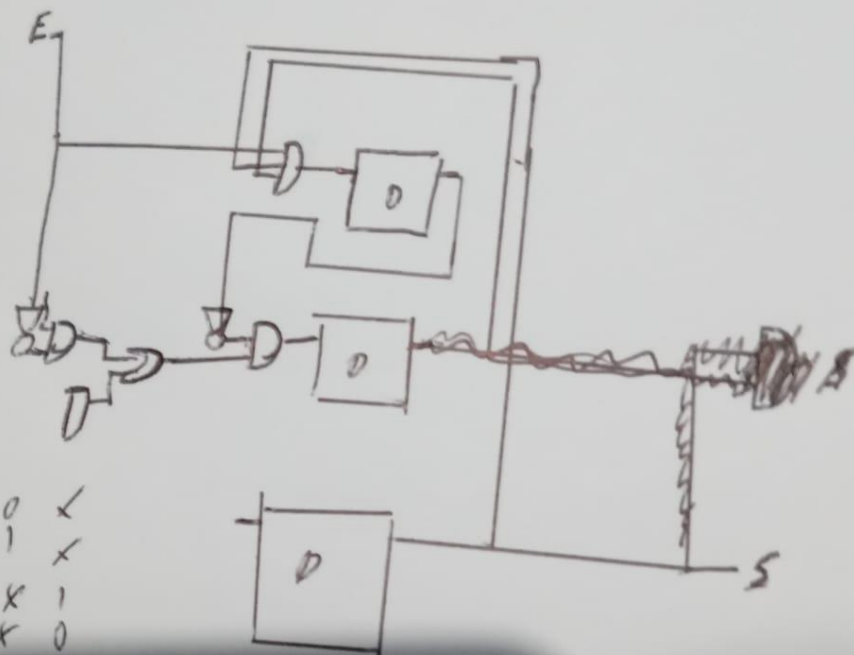
$$\text{UNDERFLOW} = 0 \ 0 \ 11 \ 000000 = \frac{75,875}{0,125}$$

$L \xrightarrow{2} L_1 \xrightarrow{1} L_2 \xrightarrow{1} L_3 \xrightarrow{1} 10$
 10 A
 11 B
 12 C



11110¹ 175

1111101 70



0 0 0 ✓
 0 0 1 x
 1 0 x 1
 1 1 x 0

JK	SK	SK
00	0X	x1
01	1X	0X
10	x1	1X
11	11	1X

dom seg ter qua qui sex sáb

$$S/L_2/L_3$$

0	0	0	0	1	1	0	0
0	0	0	1	1	0	1	1
0	0	1	0	1	0	1	0
0	0	1	1	1	0	0	1
1	0	0	0	1	0	0	0
1	0	0	1	0	0	0	1
1	1	0	0	0	0	1	0
1	1	1	0	0	0	1	1
1	0	0	0	1	0	0	1
1	0	1	0	1	0	0	1
1	0	1	1	0	0	0	1
1	1	0	0	1	0	0	1
1	1	0	1	0	0	0	1
1	1	1	0	0	0	0	1
1	1	1	1	0	0	0	1

$$L_1/L_2/L_3$$

00	01	11	10
00	0	1	0
01	0	0	0
10	0	0	0
11	0	0	1

-4

$$\rightarrow S\bar{L}_3 + \bar{L}_1\bar{L}_2L_3$$

0000

$$L_1/L_2/L_3$$

00	01	11	10
00	0	0	0
01	0	0	0
10	1	1	0
11	1	1	1

$$L_1/L_2/L_3$$

00	01	11	10
00	0	0	0
01	0	0	0
11	1	1	1
10	1	1	1

(L1L2)

S1S2S3S4

Válidos

1	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
-4	1	0	0
-5	1	0	1
-2	1	1	0
-7	1	1	1
-4	0	1	0
-3	0	1	1
-4	0	1	0
-3	0	1	1
-4	0	1	0
-3	0	1	1
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1

$$\left\{ \begin{array}{l} \bar{S}L_3\bar{L}_1L_2 + \\ L_1\bar{L}_2 + S L_1 + \bar{L}_1L_1 \end{array} \right\}$$

$$L_1/L_2/L_3$$

00	01	11	10
00	1	1	1
01	1	1	1
11	1	1	1
10	0	0	0

$$\left\{ \begin{array}{l} \bar{L}_1L_2 + \bar{S}L_2 + L_3L_2 \end{array} \right\}$$

$$L_1/L_2/L_3$$

00	01	11	10
0	1	1	1
0	1	1	1
0	1	1	1
0	1	1	1

$$\Rightarrow \bar{S}L_3$$

