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## 1. Mudança de Base

a) 137<sub>8</sub> para 2 e 16

1 3 7

001 011 111 = 0101111<sub>2</sub>

0101 1111

5 F = 5F<sub>16</sub>

b) AC2<sub>16</sub> para 8 e 10

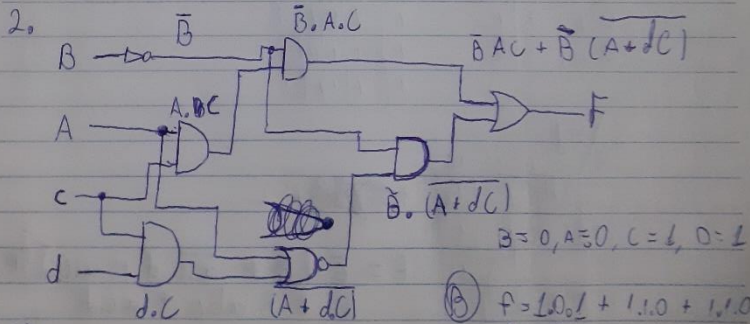
A C 2

1010 1100 0010 = 101011000010<sub>2</sub>

101 011 000 010

5 3 0 2 = 5302<sub>8</sub>

$5 \times 8^3 + 3 \times 8^2 + 2 \times 8^0 = 2560 + 192 + 2 = 2754$



A)

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

$$P = \bar{B}.A.C + \bar{B}.\bar{A}.\bar{d} + \bar{B}.\bar{A}.\bar{C}$$

tilbra

3) +, -, x, ÷

a)  $1011_2 \pm 100_2$

a)

$1011_2 + 100_2 = 1101_2$

$1011_2 - 100_2 = 1001_2$

$1011_2 \times 100_2 = 101100_2$

$1011 \div 100_2 = 101_2$

b)  $1110_2 \pm 10_2$

$1110_2 + 10_2 = 10000_2$

$1110_2 - 10_2 = 1100_2$

$1110_2 \times 10_2 = 11100_2$

$1110_2 \div 10_2 = 111$

4.  $F(a, b, c, d) = \sum m(0, 1, 2, 5, 6, 8, 11, 14, 15)$

a	b	c	d
0	0	0	0
0	0	0	1
0	0	1	0
0	0	1	1
0	1	0	0
0	1	0	1
0	1	1	0
0	1	1	1
1	0	0	0
1	0	0	1
1	0	1	0
1	0	1	1
1	1	0	0
1	1	0	1
1	1	1	0
1	1	1	1

a \ b	0	1
0	1	1
1	1	1

$f = \bar{c}\bar{d}\bar{b} + \bar{a}\bar{c}d + a\bar{c}d + abc + acd$

$f = \bar{c}\bar{d}\bar{b} + \bar{a}\bar{c}d + a\bar{c}d + abc + acd$

5) a) Flip-Flop R-S (Set-Reset)

S	R	Q	$\bar{Q}$
0	0	Q anterior (memoria)	
0	1	0	1
1	0	1	0
1	1	invalida	