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Subiect Partial Proiectare Logică

1. $5273_8 = 3 \cdot 1 + 7 \cdot 8 + 2 \cdot 8^2 + 5 \cdot 8^3 = 3 + 56 + 128 + 2560 = 2747_{10}$

2. $0.3763_{10} = 0.011000000 1010$

Cât Anterior	Parte întreagă
0.3763 * 2	0
0.7526 * 2	1
0.5052 * 2	1
0.0104 * 2	0
0.0208 * 2	0
0.0416 * 2	0
0.0832 * 2	0
0.1664 * 2	0
0.3328 * 2	0
0.6656 * 2	1
0.3312 * 2	0
0.6624 * 2	1
0.3248 * 2	0

3. $F(A,B,C,D) = A \cdot B \cdot C' \cdot D + B \cdot C + B' + A \cdot D'$

A	B	C	D	C'	D'	B'	A.B.C'.D	B.C	A.D'	f()
0	0	0	0	1	1	1	0	0	0	1
0	0	0	1	1	0	1	0	0	0	1
0	0	1	0	0	1	1	0	0	0	1
0	0	1	1	0	0	1	0	0	0	1
0	1	0	0	1	1	0	0	0	0	0
0	1	0	1	1	0	0	0	0	0	0
0	1	1	0	0	1	0	0	1	0	1
0	1	1	1	0	0	0	0	1	0	1
1	0	0	0	1	1	1	0	0	1	1
1	0	0	1	1	0	1	0	0	0	1
1	0	1	0	0	1	1	0	0	1	1
1	0	1	1	0	0	1	0	0	0	1
1	1	0	0	1	1	0	0	0	1	1
1	1	0	1	1	0	0	1	0	0	1
1	1	1	0	0	1	0	0	1	1	1
1	1	1	1	0	0	0	0	1	0	1

$FCD = \sum m(0,1,2,3,6,7,8,9,10,11,12,13,14,15)$

$= A'B'C'D' + A'B'C'D + A'B'CD' + A'B'CD + A'BCD' + A'BCD$

$+ AB'C'D' + AB'C'D + AB'CD' + AB'CD + ABC'D' +$

$+ ABC'D + ABCD' + ABCD$

4.

#	A	B	C	D	f
0	0	0	0	0	1
1	0	0	0	1	1
2	0	0	1	0	0
3	0	0	1	1	1
4	0	1	0	0	1
5	0	1	0	1	1
6	0	1	1	0	1
7	0	1	1	1	1
8	1	0	0	0	1
9	1	0	0	1	1
10	1	0	1	0	1
11	1	0	1	1	0
12	1	1	0	0	1
13	1	1	0	1	0
14	1	1	1	0	0
15	1	1	1	1	1

CD \\ AB	$A'B'$ 00	$A'B$ 01	AB 10	AB' 10
$C'D'$ 00	1	1	1	1
$C'D$ 01	1	1	0	1
CD 11	1	1	1	0
CD' 10	0	1	0	1

$$F(A,B,C,D) = A'B + C'D' + A'C' + B'C' + A'D + BCD + AB'D$$

5. $X = -3.892578125_{10} \Rightarrow$ sign $= 1$

$$\mathcal{R} = \left\lfloor \frac{\log|X|}{\log 2} \right\rfloor = 1$$

$$exp = \mathcal{R} + 1023 = 1024 = 10000000000$$

$$man = \frac{|X|}{2^{\mathcal{R}}} - 1 = 0.946289 0625$$

X in binary 64 = 110000000000.1111001001 0

$0.946289 0625 * 2 \Rightarrow 1$

$0.892578125 * 2 \Rightarrow 1$

$0.785156255 * 2 \Rightarrow 1$

$0.57031251 * 2 \Rightarrow 1$

$0.1406250 2 * 2 \Rightarrow 0$

$0.28125004 * 2 \Rightarrow 0$

$0.56250008 * 2 \Rightarrow 1$

$0.12500016 * 2 \Rightarrow 0$

$0.25000032 * 2 \Rightarrow 0$

$0.50000064 * 2 \Rightarrow 1$

$0.00000128 * 2 \Rightarrow 0$