

QUESTÃO 1 - LUCAS PAIVA DA SILVA (20100414) - TRAB 01

→ CALCULAR S, E, F P/ FLOAT (32 BITS) $X = -60,06$

$$V_{10} = (-1)^S \cdot 2^{e-127} \cdot (1, F)_2 \quad \therefore S = 1 \text{ (NÚMERO NEGATIVO)}$$

→ SUPONDO INICIALMENTE QUE $0 \leq e < 255$

$$60,06 = 2^{e-127} \quad \therefore e = 132,908 \quad \therefore e = 132$$

COM OS VALORES OBTIDOS

$$-60,06_{10} = (-1)^1 \cdot 2^{132-127} \cdot (1, F)_2 \quad \therefore (1, F) = \frac{60,06}{2^5} = 1,846875$$

1,846875 P/ BINÁRIO

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0: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

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

$2^0 + 2^{-1} + 2^{-2} + 2^{-3} + 2^{-10} + 2^{-11} + 2^{-12} + 2^{-13} + 2^{-15} + 2^{-17} + 2^{-18} + 2^{-19} + 2^{-23}$

$\approx 1,8468149234060546245$

1	10000100	111100000011110101110001
S	E	F

$$V_E = -60,06$$

$$V_A = -60,060001343291015625$$

$$E_{\%} = \left| \frac{V_A - V_E}{V_E} \right| \cdot 100 = 2,2865 \cdot 10^{-6} \%$$