

# تسبیح 1

الموضوع:

التاريخ:

$$(75)_{10} = \begin{array}{l} 75 \div 2 = 37 R_1 \\ 37 \div 2 = 18 R_1 \\ 18 \div 2 = 9 R_0 \\ 9 \div 2 = 4 R_1 \\ 4 \div 2 = 2 R_0 \\ 2 \div 2 = 1 R_0 \\ 1 \div 2 = 0 R_1 \end{array}$$

$$0(11011010)_2 = (332)_8$$

$$00111110)_2 = (176)_8$$

$$\text{Binary } (29)_{10} = 29 \div 2 = 14 R_1 \\ 14 \div 2 = 7 R_0 \\ 7 \div 2 = 3 R_1 \\ 3 \div 2 = 1 R_1 \\ 1 \div 2 = 0 R_1 \\ (1001011)_2$$

octal

$$\text{Binary } (29)_{10} = 29 \div 2 = 14 R_1 \\ 14 \div 2 = 7 R_0 \\ 7 \div 2 = 3 R_1 \\ 3 \div 2 = 1 R_1 \\ 1 \div 2 = 0 R_1 \\ (11101)_2$$

$$(339)_{10} = 339 \div 2 = 169 R_1 \\ 169 \div 2 = 84 R_1 \\ 84 \div 2 = 42 R_0 \\ 42 \div 2 = 21 R_0 \\ 21 \div 2 = 10 R_1 \\ 10 \div 2 = 5 R_0$$

Binary

$$5 \div 2 = 2 R_1 \\ 2 \div 2 = 1 R_0 \\ 1 \div 2 = 0 R_1 \\ (10101011)_2$$

octal

$$(643)_8$$

$$(110100011)_2$$

(3 digits)

$$(65)_8$$

$$(110101)_2$$

$$(56)_8$$

$$(101110)_2$$

Binary

$$(1011101010)_2 = 2EA$$

$$(111011100)_{\text{hexadecimal}} = 1EFC$$

$$A9$$

$$(10101001)_2$$

$$A=10 \quad 1D=29$$

$$(1110100101001)_2$$

binary

$$(35)_{10} = 35 \div 8 = 4 R_3 \\ 4 \div 8 = 0 R_4 \\ 43$$

$$(394)_{10} = 394 \div 8 = 49 R_2 \\ 49 \div 8 = 6 R_1 \\ 6 \div 8 = 0 R_6 \\ (612)_8$$

octal

$$(3B7)_{16}$$

$$(00110101011)_2$$

$$C4$$

$$(11000100)_2$$

$$AD$$

$$(10101101)_2$$

binary

$$(29.625)_{10} = \begin{array}{l} 29 \div 2 = 14 R_1 \\ 14 \div 2 = 7 R_0 \\ 7 \div 2 = 3 R_1 \\ 3 \div 2 = 1 R_1 \\ 1 \div 2 = 0 R_1 \\ 0.625 \div 2 = 0.3125 \\ 0.3125 \div 2 = 0.15625 \\ 0.15625 \div 2 = 0.078125 \\ 0.078125 \div 2 = 0.0390625 \\ 0.0390625 \div 2 = 0.01953125 \\ 0.01953125 \div 2 = 0.009765625 \\ 0.009765625 \div 2 = 0.0048828125 \\ 0.0048828125 \div 2 = 0.00244140625 \\ 0.00244140625 \div 2 = 0.001220703125 \\ 0.001220703125 \div 2 = 0.0006103515625 \\ 0.0006103515625 \div 2 = 0.00030517578125 \\ 0.00030517578125 \div 2 = 0.000152587890625 \\ 0.000152587890625 \div 2 = 7.62890625 \times 10^{-5} \end{array}$$

binary

$$(43.125)_{10}$$

$$34 \div 2 = 17 R_1 \\ 17 \div 2 = 8 R_1 \\ 8 \div 2 = 4 R_0 \\ 4 \div 2 = 2 R_0 \\ 2 \div 2 = 1 R_0 \\ 1 \div 2 = 0 R_1$$

$$0.125 \div 2 = 0.0625 \\ 0.0625 \div 2 = 0.03125 \\ 0.03125 \div 2 = 0.015625 \\ 0.015625 \div 2 = 0.0078125 \\ 0.0078125 \div 2 = 0.00390625 \\ 0.00390625 \div 2 = 0.001953125 \\ 0.001953125 \div 2 = 0.0009765625 \\ 0.0009765625 \div 2 = 0.00048828125 \\ 0.00048828125 \div 2 = 0.000244140625 \\ 0.000244140625 \div 2 = 0.0001220703125 \\ 0.0001220703125 \div 2 = 6.103515625 \times 10^{-5}$$

binary

$$(101011.001)_2$$

$$AB3.F5E$$

$$(10 \times 16^2) + (11 \times 16^1) + (3 \times 16^0) = 2739 \\ (15 \times 16^{-1}) + (5 \times 16^{-2}) + (14 \times 16^{-3}) = 0.96045 \\ \approx (2739.96045)_{10}$$

Decimal

$$(55.6)_8$$

$$8^1 \times 8^0 = 8 \\ (5 \times 8^1) + (5 \times 8^0) + (6 \times 8^{-1}) = 45.75 \\ \approx (45.75)_{10}$$

$$77.5$$

Decimal

$$(7 \times 8^1) + (7 \times 8^0) + (5 \times 8^{-1}) = 63.625 \\ \approx (63.625)_{10}$$