

27.09 1 сентября  
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заг 1  $57_{(10)} \rightarrow ?_2$

$$57:2=28 \quad 1$$

$$28:2=14 \quad 0$$

$$14:2=7 \quad 0$$

$$7:2=3 \quad 1$$

$$3:2=1 \quad 1$$

$$1:2=0 \quad 1$$

$$\Rightarrow 57_{10} = \boxed{111001_2}$$

заг 2  $57,25_{10} = x_2$

$$\begin{array}{l} 0,25 \cdot 2 = 0,5 \quad 0 \\ 0,50 \cdot 2 = 1,0 \quad 1 \end{array} \quad \Rightarrow 0,25 = 01$$

$$57,25_{10} = \boxed{111001,01_2}$$

заг 3  $57_{10} = x_8$

$$\begin{array}{l} 57:8=7 \quad 1 \\ 7:8=0 \quad 7 \end{array} \quad \Rightarrow \boxed{57_{10} = 71_8}$$

заг 4  $57,25_{10} = x_8$

$$\begin{array}{l} 0,25 \cdot 8 = 2,0 \quad 2 \\ 2,00 \cdot 8 = 16,0 \quad 0 \end{array} \quad \Rightarrow \boxed{57,25_{10} = 71,2_8}$$



заг 5  $57_8 = x_2$  триади

$$5 = 101_2, 7 = 111 \Rightarrow \boxed{57_8 = 10111_2}$$

триада от ~~то~~ ~~гсч~~ ~~на~~ ~~гсч~~ и може да се гонбелки  
0 кули

заг 6

$$\boxed{101110001011110} = \boxed{136_8}$$

заг 7

$$57_{10} = x_{16}$$

$$57: 16 = 3 \text{ } 9$$

$$3: 16 = 0 \text{ } 3$$

$$\Rightarrow \boxed{x = 39_{16}}$$

заг 8

$$57,25_{10} = x_{16}$$

$$0,25: 16 = 0 \text{ } \frac{1}{4}$$

$$\Rightarrow \boxed{x = 39,4_{16}}$$

заг 9

$$F31_{16} = x_2 \text{ метрици}$$

$$\boxed{1111.00110001_2}$$

заг 9

$$\boxed{111100101011101_2} = x_{16} \quad \boxed{x = 5BD_{16}}$$



задача 10

Напишите - двоичные коды на машинах?

а)  $32 - 32$

$32 = 100000$   $5 \text{ чк} = 0 \text{ чк} = 2 \text{ чк}$

$32 : 2 = 16$  0

$16 : 2 = 8$  0

$8 : 2 = 4$  0

$4 : 2 = 2$  0

$2 : 2 = 1$  0

$1 : 2 = 0$  1

$-32 = 1 \mid 100000$   $5 \text{ чк}$

$1 \mid 011111$   $0 \text{ чк}$

$1 \ 1 \ 1 \ 1 \ 1$

$0 \ 1 \ 1 \ 1 \ 1 \ 1$

$+ \quad \quad \quad 1$   
 $100000$   $2 \text{ чк}$

б)  $45 - 45$

$45 : 2 = 22$  (1)

$22 : 2 = 11$  (0)

$11 : 2 = 5$  (1)

$5 : 2 = 2$  (1)

$2 : 2 = 1$  (0)

$1 : 2 = 0$  (1)

$0 \mid 101101$   $5 \text{ чк} = 0 \text{ чк} = 2 \text{ чк}$

$1 \mid 101101$   $5 \text{ чк}$

$1 \mid 010010$   $0 \text{ чк}$

$0 \ 1 \ 0 \ 0 \ 1 \ 0$

$+ \quad \quad \quad 1$   
 $1 \mid 010011$   $2 \text{ чк}$

заг 11

а)  $10010$

$+ \ 1011$

$11101$

б)  $1011$

$+ \ 11001$

$100100$

в)  $11101$

$+ \ 10111$

$11111$

$1010011$



309 12

$$\begin{array}{r}
 111101 \\
 + \quad 1111 \\
 \quad 101 \\
 \hline
 110001
 \end{array}$$

309 13

$$\begin{array}{r}
 10000000 \\
 - 1111111 \\
 \hline
 1
 \end{array}$$

$$\begin{array}{r}
 0 \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2} \\
 1 \cancel{0} \cancel{0} \cancel{0} \cancel{0} \cancel{0} \cancel{0} \cancel{0} \\
 1111111 \\
 \hline
 00000001
 \end{array}$$

$$\begin{array}{r}
 101001 \\
 - 110111 \\
 \hline
 100
 \end{array}$$

$$\begin{array}{r}
 2 \cancel{0} 2 \cancel{0} 2 \cancel{0} 2 \cancel{0} 1 \\
 - 110111 \\
 \hline
 110010
 \end{array}$$

$$\begin{array}{r}
 1 \cancel{1} \cancel{0} 1 1 1 \\
 1 \cancel{0} 1 \cancel{0} 0 1 \\
 \hline
 - 001110
 \end{array}$$

$$\begin{array}{r}
 101001 \text{ Sum} \\
 011011 \text{ Sum}
 \end{array}$$

$$\begin{array}{r}
 0 \frac{1}{2} \frac{1}{2} \frac{1}{2} 2 \frac{1}{2} 2 \frac{1}{2} 2 \\
 \cancel{0} \cancel{0} \cancel{0} \cancel{0} \cancel{1} \cancel{1} 0 \cancel{0} \\
 - 00111011 \\
 \hline
 - 11011111 \text{ OK}
 \end{array}$$

$$\begin{array}{r}
 0 \cancel{0} 2 \cancel{0} \frac{1}{2} 2 \\
 1 \cancel{0} \cancel{0} \cancel{0} 1 \\
 - 110111 \\
 \hline
 110010 \text{ OK}
 \end{array}$$

$$\begin{array}{r}
 1100 \cancel{0} \cancel{0} \\
 - 1
 \end{array}$$

$$\begin{array}{r}
 110001 \text{ OK} \\
 001110 \text{ Sum}
 \end{array}$$