

İrtufan KANTAR 05190000086 İrtufan

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Sol üst köşeye
atılacağını bilmiyordum.
2 kere attım 0
yüzden.

① a-) $2_{10} = 0010_{BCD}$ $8_{10} = 1000_{BCD}$ $9_{10} = 1001_{BCD}$
 $28_{10} = 001010001001_{BCD}$

b-) $\underbrace{1001}_9 \underbrace{0101}_5 \underbrace{0110}_6_{BCD} = 956_{10}$

c-) $\underbrace{0111}_7 \underbrace{1000}_8_{BCD} = 78_{10} = 64 + 8 + 4 + 2 = 1001110_2$

d-) İkiliğe sisteme kıyasla onluk tabana çevirmesi veya onluk tabanın BCD'ye çevrilmesi çok daha kısa sürüyor.

② a-) $18_{10} = 010010_2$ $15_{10} = 001111_2$ $\begin{array}{r} 110000 \\ + 000001 \\ \hline 110001 \end{array}$
 $-15_{10} = 110001_2 \leftarrow$

$\begin{array}{r} 010010_2 \\ + 110001_2 \\ \hline 100011_2 \end{array} \rightarrow \text{Sonuç } 000011_2, \text{ Overflow yok.}$

b-) $20_{10} = 010100_2$ $9_{10} = 001001_2$ $\begin{array}{r} 110110 \\ + 000001 \\ \hline 110111 \end{array}$
 $-9_{10} = 110111_2$

$\begin{array}{r} 010100_2 \\ + 110111_2 \\ \hline 100101_2 \end{array} \rightarrow \text{Sonuç } 001011_2, \text{ overflow yok.}$

c-) $28_{10} = 011100_2$ $-28_{10} = 100011 + 1 = 100100_2$
 $4_{10} = 000100_2$ $-4_{10} = 111011 + 1 = 111100_2$
 $\begin{array}{r} 100100_2 \\ + 111100_2 \\ \hline 100000_2 \end{array}$

→ Sonuç 100000_2 overflow yok.



d.) $16_{10} = 010000_2$ $-16_{10} = 101111 + 1 = 110000_2$
 $20_{10} = 010100_2$ $-20_{10} = 101011 + 1 = 101100_2$

$\begin{array}{r} 101100 \\ + \end{array}$
<u>1011100_2</u>

→ Sonuç 1011100_2 , 7 bit olduğundan overflow var.

③ a-) $21_8 = 2.8 + 1 = 17_{10}$ (Decimal)
 $17_{10} = 10001_2$ (Binary) $\rightarrow 2^4 + 2^0$
 $10001_2 = 11_{16}$ (Hexadecimal)

b-) $47_8 = 4 \cdot 8 + 7 = 39_{10}$ (Decimal)
 $39_{10} = 100111_2$ (Binary) $\rightarrow 2^5 + 2^2 + 2^1 + 2^0$
 $0010,0111_2 = 27_{16}$ (Hexadecimal)

C) $365_8 = 3.8^2 + 6.8 + 5 = 245_{10}$ (Decimal)

$365_8 = 011110101_2 = 11110101_2$ (Binary)

$11110101_2 = F5_{16}$ (Hexadecimal)

d) $2670_8 = 2 \cdot 8^3 + 6 \cdot 8^2 + 7 \cdot 8 = 1464_{10}$ (Decimal)

$1464_{10} = \frac{1024}{2^{10}} + \frac{256}{2^8} + \frac{128}{2^7} + \frac{32}{2^5} + \frac{16}{2^4} + \frac{8}{2^3}$

$= 10110111000_2$ (Binary)

$\underbrace{0101}_5 \underbrace{1011}_B \underbrace{1000}_8_2 = 5B8_{16}$ (Hexadecimal)