

ÖDEV-1

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1-) $64CD_{16}$

Hexadecimal	6	4	C (12)	D (13)
Binary :	0 1 1 0	0 1 0 0	1 1 0 0	1 1 0 1

$\Rightarrow 0110\ 0100\ 1100\ 1101_2$

Binary :	0	1	1	0	0	1	0	0	1	1	0	0	1	1	0	1
Octal :	0	6	2	3	1	5										

$= 62315_8$

Decimal : $6 \cdot 16^3 + 4 \cdot 16^2 + 12 \cdot 16^1 + 13 \cdot 16^0 = 25805_{10}$

2-) 431_{10}

$431 \div 16$	$26 \div 16$	$1 \div 16$
$\begin{array}{r} 431 \\ -32 \\ \hline 111 \\ -96 \\ \hline 15 \end{array}$	$\begin{array}{r} 26 \\ -16 \\ \hline 10 \end{array}$	$\begin{array}{r} 1 \\ -0 \\ \hline 1 \end{array}$

$431_{10} = 1AF_{16}$

$431_{10} \div 8$	$53 \div 8$	$6 \div 8$
$\begin{array}{r} 431 \\ -40 \\ \hline 31 \\ -24 \\ \hline 7 \end{array}$	$\begin{array}{r} 53 \\ -48 \\ \hline 5 \end{array}$	$\begin{array}{r} 6 \\ -0 \\ \hline 6 \end{array}$

$431_{10} = 657_8$

$431 \div 2$	$215 \div 2$	$107 \div 2$	$53 \div 2$	$26 \div 2$	$13 \div 2$	$6 \div 2$	$3 \div 2$
$\begin{array}{r} 431 \\ -22 \\ \hline 11 \\ -10 \\ \hline 1 \end{array}$	$\begin{array}{r} 215 \\ -20 \\ \hline 15 \\ -14 \\ \hline 1 \end{array}$	$\begin{array}{r} 107 \\ -106 \\ \hline 1 \end{array}$	$\begin{array}{r} 53 \\ -52 \\ \hline 1 \end{array}$	$\begin{array}{r} 26 \\ -26 \\ \hline 0 \end{array}$	$\begin{array}{r} 13 \\ -12 \\ \hline 1 \end{array}$	$\begin{array}{r} 6 \\ -6 \\ \hline 0 \end{array}$	$\begin{array}{r} 3 \\ -2 \\ \hline 1 \end{array}$

$(431)_{10} = (110101111)_2$

3-)

a) $(10110.0001)_2$

b) $(16.5)_{16}$

c) $(26.24)_8$

d) $(DADA.8)_{16}$

e) $(1010.1101)_2$

a) $0.2^0 + 1.2^1 + 1.2^2 + 0.2^3 + 1.2^4 = 2 + 4 + 16 = 22$

$$0.2^{-1} + 1.2^{-2} + 0.2^{-3} + 1.2^{-4} = \frac{1}{4} + \frac{1}{16} = \frac{5}{16} = 0.3125$$

$$(10110.0101)_2 = (22.3125)_{10}$$

b) $6.16^0 + 1.16^1 = 22 \quad 5.16^{-1} = 0.3125$

$$(16.5)_{16} = (22.3125)_{10}$$

c) $6.8^0 + 2.8^1 = 6 + 16 = 22$

$$2.8^{-1} + 4.8^{-2} = 0.3125$$

$$(26.24)_8 = (22.3125)_{10}$$

d) $10.16^0 + 13.16^1 + 10.16^2 + 13.16^3 = 56026$

$$11.16^{-1} = 0.6875$$

$$(DADA.8)_{16} = (56026.6875)_{10}$$

e) $0.2^0 + 1.2^1 + 0.2^2 + 1.2^3 = 10$

$$1.2^{-1} + 1.2^{-2} + 0.2^{-3} + 1.2^{-4} = 0.8125$$

$$(1010.1101)_2 = (10.8125)_{10}$$

4- a) 1.10010

b) 110010

a) $1.2^0 = 1 \quad 1.2^{-1} + 0.2^{-2} + 0.2^{-3} + 1.2^{-4} + 0.2^{-5} = 0.5625$

$$(1.10010)_2 = (1.5625)_{10}$$

$$(1.10010)_2 = (1.9)_{16}$$

b) $0.2^0 + 1.2^1 + 1.2^2 = 6 \quad 0.2^{-1} + 1.2^{-2} + 0.2^{-3} = 0.25$

$$(110.010)_2 = (6.25)_{10}$$

$$(110.010)_2 = (0110.0100)_4 = (6.4)_{16}$$

10'lük sistemde virgöl kaldırılmasıyla oluşan değerler 10'un katlarıdır. Eğer bir birim sağa kaydırırsak sayımız 10 kat büyür, sola kaydırırsak 10 kat küçülür. Aynı şey diğer sayı sistemlerinde de geçerlidir. 2'lik sistemde virgölü 2 sağa kaydırmak sayımızı $2^2=4$, 4 kat büyütür.

②

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5-) $f(x,y,z) = \bar{x}y + z$

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	x	y	z	$\bar{x}y + z$
(0)	0	0	0	0
(1)	0	0	1	1
(2)	0	1	0	1
(3)	0	1	1	1
(4)	1	0	0	0
(5)	1	0	1	1
(6)	1	1	0	0
(7)	1	1	1	1

$z=1$ durumlarında

$$f = \bar{x}y + 1 = 1 \text{ olur}$$

$z=0$ durumlarında

$\bar{x}y = 1$ olduğu durumlarda

$$f = 1 \text{ olur,}$$

Diğer durumlarda 0 olur.

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