0
1
2
3
4
5
6
7
8
9
10

10^2 10^1 10^0
100's 10's 1's
$(344)_{10}$

0
1
2
3
4
10

$$\begin{array}{r} {}^{1}4 \\ +\ 1 \\ \hline 10 \end{array}$$

$5^2\ 5^1\ 5^0$
$25's\ 5's\ 1's$
$(344)_5$

$3 \times 5^2 = 3 \times 25 = 75$
$4 \times 5^1 = 4 \times 5 = 20$
$4 \times 5^0 = 4 \times 1 = 4$
$(99)_{10}$

$(344)_{10}$

$$\begin{array}{r|l} 250 & \\ \hline 94 & \\ 75 & \\ \hline 19 & \\ 15 & \\ \hline 4 & \end{array}$$

5^4	5^3	5^2	5^1	5^0
625	125	25	5	1
0	2	3	3	4

$(2334)_5$

0
1
10

$0+0=0$ $0+1=1$ $1+0=1$ $1+1=10$

BYTE

$(1101\ 0110)_2$

NIBBLE

BIT

2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
128	64	32	16	8	4	2	1
1	1	0	1	0	1	1	0

$$\begin{array}{r} {\scriptstyle 1\ 2} \\ 128 \\ +\ 64 \\ +\ 16 \\ +\ 4 \\ +\ 2 \\ \hline (214)_{10} \end{array}$$

$(214)_{10}$

512	256	128	64	32	16	8	4	2	1
0	0	1	1	0	1	0	1	1	0

$(1101\ 0110)_2$

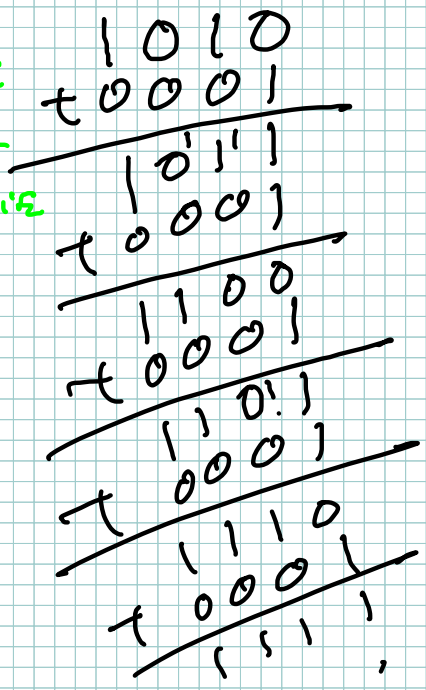
$(0000\ 0000\ 1101\ 0110)_2$

214
128
86
64
22
16
6
4
2
2
0

0	0	0000
1	1	0001
2	2	0010
3	3	0011
4	4	0100
5	5	0101
6	6	0110
~~7~~	7	0111
8	8	1000
9	9	1001
A	10	1010 ABLE
B	11	1011 BAKER
C	12	1100 CHARLIE
D	13	1101 DOG
E	14	1110 EASY
F	15	1111 FOX

HEXADECIMAL

$$(1101\ 0110)_2 = (D6)_{16}$$



$(D\ 6)_{16}$ (16^1 16^0)

$D \times 16^1 = 13 \times 16 = 208$

$6 \times 16^0 = 6 \times 1 = 6$

$(214)_{10}$

$$\begin{array}{r} 16 \\ \times\ 13 \\ \hline 48 \\ 16 \\ \hline 208 \end{array}$$

1101 0110