

$$\begin{matrix} 10^2 & 10^1 & 10^0 \\ 100 & 10 & 1 \\ (3 & 2 & 4)_{10} \end{matrix}$$

$$3 \times 10^2 = 3 \times 100 = 300$$

$$2 \times 10^1 = 2 \times 10 = 20$$

$$4 \times 10^0 = 4 \times 1 = 4$$

$$(324)_{10}$$

$$\begin{array}{r} 19 \\ + 1 \\ \hline 10 \end{array}$$

0
1
2
3
4
5
6
7
8
9
10

$$\begin{array}{ccc} 5^2 & 5^1 & 5^0 \\ 25 & 5 & 1 \\ (3 & 2 & 4)_5 \end{array}$$

$$\begin{array}{l} 3 \times 5^2 = 3 \times 25 = 75 \\ 2 \times 5^1 = 2 \times 5 = 10 \\ 4 \times 5^0 = 4 \times 1 = 4 \end{array}$$

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

$$\overbrace{(89)}_{10}$$

- 0
- 1
- 2
- 3
- 4
- 10
- 11
- 12
- 13
- 14
- 20

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	0	0	1	1	1	0	1

$(\quad \quad \quad \quad \quad \quad \quad \quad)_2$

- $0+0=0$
- $0+1=1$
- $1+0=1$
- $1+1=$

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

$$\begin{array}{r} 1 \times 128 = 128 \\ 1 \times 16 = 16 \\ 1 \times 8 = 8 \\ 1 \times 4 = 4 \\ 1 \times 1 = 1 \\ \hline (157)_{10} \end{array}$$

0
1
10

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

$$(215)_{10}$$

$$\begin{array}{r} 215 \\ -128 \\ \hline 87 \\ 64 \\ \hline 23 \\ 16 \\ \hline 7 \end{array} \quad \begin{array}{r} 7 \\ 4 \\ 3 \end{array}$$

	2048	1024	512	256	128	64	32	16	8	4	2	1
	1	1	0	0	0	1	0	1	0	0	0	0
	C			5				0				
	16											

$(3152)_{10}$

$$\begin{array}{r}
 3152 \\
 \underline{2048} \\
 1104 \\
 \underline{1024} \\
 80 \\
 \end{array}
 \qquad
 \begin{array}{r}
 80 \\
 \underline{-64} \\
 16 \\
 \underline{16} \\
 0
 \end{array}$$

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
B 11 1011
C 12 1100
D 13 1101
E 14 1110
F 15 1111

$$(C \ 5 \ 0)_{16}$$

16^2 16^1 16^0
 256 16 1

$$C \times 16^2 = 12 \times 256 = 3072$$

$$5 \times 16^1 = 5 \times 16 = 80$$

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

$$\hline (3152)_{16}$$

$$\begin{array}{r} 256 \\ + 12 \\ \hline \end{array}$$

$$512$$

$$\begin{array}{r} 512 \\ + 256 \\ \hline \end{array}$$

$$3072$$