

$$\begin{array}{cccccccc} & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 2 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{array}$$

$$\text{while}(n > 0) \{$$

$$\quad \text{if}(n \& 1 == 1) \text{ cout} \ll$$

$$\quad n = n >> 1$$

$$\}$$

$$\begin{array}{r} 1010010101 \\ \underline{100001} \\ 1010110101 \end{array}$$

$$\begin{array}{r} 12 \rightarrow 00001100 \\ 0 \ll 1 \rightarrow 00011000 \quad 27 \\ 0 \ll 2 \rightarrow 00110000 \quad 49 \end{array}$$

$$\begin{array}{r} 10 \\ 8 \\ \underline{1 \ll 3} \quad 0100 \\ 1=0 \end{array}$$

$$\begin{array}{r} 1010 \\ 10000000 \\ \underline{00000000} \\ 10100000 \end{array}$$

$$\begin{array}{r} 1010 \\ 1000 \\ \underline{1000} \\ 0010 \end{array}$$

$$\begin{array}{r} 1010 \\ 1000 \\ \underline{1000} \\ 0010 \end{array}$$

$$\begin{array}{r} 1010101 \\ 1010101 \\ \underline{00000000} \\ 1010101 \end{array}$$

$$\begin{array}{r} 1010101 \\ 1010101 \\ \underline{00000000} \\ 1010101 \end{array}$$

$$\begin{array}{cccccccc} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 \\ 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 \end{array}$$

$$\begin{array}{r} 1010101 \\ 1010101 \\ \underline{00000000} \\ 1010101 \end{array}$$

$$\begin{array}{cccccccc} 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \end{array}$$

$$\begin{array}{r} 12 \\ \underline{1 \times 10^1 + 2 \times 10^0} = 12 \end{array}$$

$$\begin{array}{r} 2 \quad 3 \quad 4 \quad 1 \\ \underline{1000 \quad 100 \quad 10 \quad 1} \end{array}$$

$$\begin{array}{r} 00 \quad 10 \quad 11 \\ \underline{32 \quad 16 \quad 8 \quad 4 \quad 2 \quad 1} \end{array}$$

$$\begin{array}{r} 11111100 \\ \underline{11111100} \end{array}$$

Deci (0-9)	Bin (0,1)
0	0
1	1
2	10
3	11
4	100
5	101
6	110
7	111
8	1000

Deci  $\rightarrow$  Any Base

2	124	0
2	62	0
2	31	1
2	15	1
2	7	1
2	3	1
2	1	1
2	0	

16	124
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$$\begin{array}{r} n_{10} \\ b \\ \rightarrow n_b \end{array}$$