

$$\begin{array}{r}
 110001 = 49 \\
 \hline
 \begin{array}{cccccc}
 1 & 1 & 0 & 0 & 0 & 1 \\
 / & / & / & / & / & / \\
 32 & 16 & 8 & 4 & 2 & 1
 \end{array}
 \end{array}$$

$$\begin{aligned}
 110001_b & : 2 = ? \\
 & = 11000_b \times 2 + 1 \\
 & = (1100_b \times 2 + 0) \times 2 + 1 \\
 & = [(110_b \times 2 + 0) \times 2 + 0] \times 2 + 1 \\
 & = \{[(11_b \times 2 + 0) \times 2 + 0] \times 2 + 0\} \times 2 + 1 \\
 & = \{ \{ \{ [1_b \times 2 + 1] \times 2 + 0 \} \times 2 + 0 \} \times 2 + 0 \} \times 2 + 1 \\
 & = 110001_b
 \end{aligned}$$

$$\begin{aligned}
 abc_b & = ab_b \times 2 + c \\
 & = (a_b \times 2 + b_b) \times 2 + c_b \\
 & = a_b \cdot 2^2 + b_b \cdot 2^1 + c_b \cdot 2^0 \\
 & = abc_b
 \end{aligned}$$

$$\begin{aligned}
 1011_b & = 11 \\
 11 : 2 & = 5, \text{ Rest } 1 \\
 5 : 2 & = 2, \text{ Rest } 1 \\
 2 : 2 & = 1, \text{ Rest } 0 \\
 1 : 2 & = 0, \text{ Rest } 1 \\
 \Rightarrow & 1011_b
 \end{aligned}$$

oct.	dual	oct.	dual
0	000	4	100
1	001	5	101
2	010	6	110
3	011	7	111