

Examples

Tuesday, January 23, 2024 9:54 PM

81 → binary

$$81/2 = 40 \text{ R } 1$$

$$40/2 = 20 \text{ R } 0$$

$$20/2 = 10 \text{ R } 0$$

$$10/2 = 5 \text{ R } 0$$

$$5/2 = 2 \text{ R } 1$$

$$2/2 = 1 \text{ R } 0$$

$$1/2 = 0 \text{ R } 1$$

$$11010001$$

$$\begin{array}{r} 0 \\ 0 \\ 1 \\ 0 \\ 1 \end{array} \begin{array}{l} \\ \\ \nearrow \\ \\ \end{array} \begin{array}{l} A \\ 16^0 \\ \text{Dec. } 10 \end{array}$$

1001 → Decimal

$$\begin{array}{cccc} 1 & 0 & 0 & 1 \\ 2^3 & 2^2 & 2^1 & 2^0 \end{array} \rightarrow (1 \times 2^3) + (0 \times 2^2) + (0 \times 2^1) + (1 \times 2^0)$$

$$8 + 0 + 0 + 1 = 9$$

4C → decimal

$$(4 \times 16^1) + (C \times 16^0)$$

$$(4 \times 16^1) + (12 \times 16^0)$$

$$64 + 12 = 76$$

$$\begin{array}{r} 76 \\ 2 \end{array} \text{ R}$$

$$\text{C} = 0 \text{ R } 1$$

$$\begin{array}{cccc} C & 0 & d & e \\ \hline 99 & 11 & 10 & 101 \\ \hline 63 & 6F & 64 & 65 \end{array}$$

