

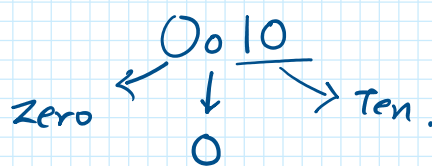
Why 10? Because we have 10 digits in decimal.

Octal no system

0 1 2 3 4 5 6 (7) → Biggest using octal.

$$\begin{array}{r} 10 \\ \text{---} 0 \times 8^0 = 0 \times 1 = 0 \\ \text{---} 1 \times 8^1 = 1 \times 8 = 8 \\ \hline 8 \end{array}$$

In JS This is how we are write octal number



$$\begin{array}{r} 12 \\ \text{---} 2 \times 8^0 = 2 \times 1 = 2 \\ \text{---} 1 \times 8^1 = 1 \times 8 = 8 \\ \hline 10 \end{array} \leftarrow (\text{in octal})$$

In old time 0 before any number makes a number octal number system.

Console.log(012 + 2) = 12 (JS)

0o237 → octal.

$$\begin{array}{r} 7 \times 8^0 = 7 \times 1 = 7 \\ 3 \times 8^1 = 3 \times 8 = 24 \\ 2 \times 8^2 = 2 \times 64 = 128 \\ \hline 159 \end{array} \rightarrow \text{Decimal.}$$

$$\begin{array}{r}
 \overset{512}{\times} \overset{64}{\times} \overset{8}{\times} \overset{1}{\times} \\
 \hline
 004527 \\
 \hline
 2048 + 320 + 16 + 7 \\
 = 2391 \checkmark
 \end{array}$$

$$\begin{array}{r}
 64 \\
 \times 5 \\
 \hline
 320
 \end{array}$$

$$\begin{array}{r}
 512 \\
 \times 4 \\
 \hline
 2048
 \end{array}$$

$$\begin{array}{r}
 2048 \\
 320 \\
 16 \\
 + 7 \\
 \hline
 2391 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 1 \quad 2 \quad 3 \\
 \begin{array}{l} \text{L} \\ \text{L} \\ \text{L} \end{array} \begin{array}{l} 3 \times 8^0 \rightarrow 3 \\ 2 \times 8^1 \rightarrow 16 \\ 1 \times 8^2 \rightarrow 64 \end{array} \\
 \hline
 83
 \end{array}$$