

3. LCM - Factorization Method

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Ex. L.C.M of 72, 108 and 2100

$$\begin{array}{r|l}
 2 & 72 \\
 \hline
 2 & 36 \\
 \hline
 2 & 18 \\
 \hline
 3 & 9 \\
 \hline
 3 & 3 \\
 \hline
 & 1
 \end{array}$$

$$2^3 \times 3^2$$

$$\begin{array}{r|l}
 2 & 108 \\
 \hline
 2 & 54 \\
 \hline
 3 & 27 \\
 \hline
 3 & 9 \\
 \hline
 3 & 3 \\
 \hline
 & 1
 \end{array}$$

$$2^2 \times 3^3$$

$$\begin{array}{r|l}
 2 & 2100 \\
 \hline
 2 & 1050 \\
 \hline
 5 & 525 \\
 \hline
 5 & 105 \\
 \hline
 3 & 21 \\
 \hline
 7 & 7 \\
 \hline
 & 1
 \end{array}$$

$$2^2 \times 5^2 \times 3 \times 7$$

$$\begin{aligned}
 \text{H.C.F} &= 2^2 \times 3^1 \\
 &= 4 \times 3 \\
 &= 12
 \end{aligned}$$

$$\Rightarrow 2^3 \times 3^3 \times 5^2 \times 7$$

$$\Rightarrow 8 \times 27 \times 25 \times 7$$

$$\Rightarrow 37800$$