

$\sum n \rightarrow$ Sum of first ' n ' natural numbers
is eq to $\frac{n(n+1)}{2}$.

Principle of Mathematical Induction

① \rightarrow we assume, that our proof (which we have to prove) is true for some natural no. ' k '

② If this is true for $k+1$ also \Rightarrow it is true for all natural nos

$$\sum k = \frac{k(k+1)}{2} \quad 1+2+\dots+k.$$

$$\sum_{k+1} = \frac{(k+1)(k+1+1)}{2} = \frac{(k+1)(k+2)}{2}$$

$1+2+\dots+k+1$

$\rightarrow k+1$

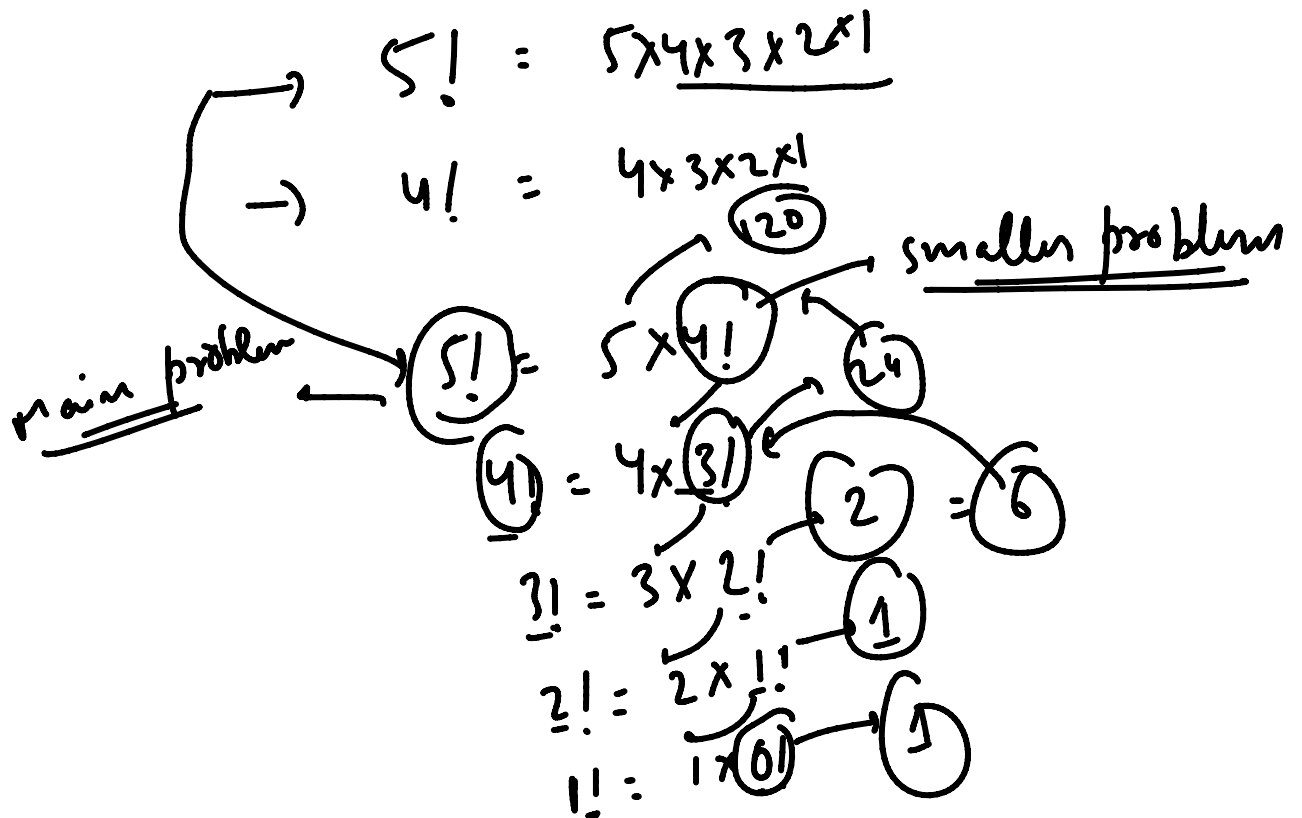
$$\frac{k(k+1)}{2} + (k+1)$$

$$(k+1) \left(\frac{k}{2} + 1 \right) = \frac{(k+1)(k+2)}{2}$$

$(12 \dots 1)$

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You have to calc. Factorial of a Number.



A task / function calling itself.