Brainbox learn easy

Chapter 07

PERMUTATIONS AND COMBINATIONS

FACTORIAL NOTATION:

The notation 'n!' or '$\lfloor n$' represents the product of first 'n' natural numbers.

Example:

The product $1\times2\times3\times.....\times(n-1)\times n$ is denoted by 'n!' or '$\lfloor n$' we read their symbol as "n factorial".

Thus, $1\times2\times3\times.....\times(n-1)\times n = n!$

$1=1!$

$1\times2=2!$

$1\times2\times3=3!$

$1\times2\times3\times4=4!$ and so on.

We define $0!=1$

Clearly, for a natural number 'n'.

$n!=n(n-1)!$

$=n(n-1)(n-2)!$ (provided $n\geq2$)

$=n(n-1)(n-2)(n-3)!$ (provided $n\geq3$)

and so on....