

Permutation & Combination

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STUDY FOR FE

Permutation is arrangement of a set of objects.

Order is important in permutations.



Mathematically, permutation is given as follows:

$$P(n, r) = \frac{n!}{(n - r)!}$$

n = total number of objects

r = number of objects taken at a time.

$$P(n, n) = \frac{n!}{(n - n)!} = \frac{n!}{0!} = n!$$

Combination is arrangement of a set of objects.

Order is not important in combination.

Mathematically, it can be expressed as follows:

$$C(n, r) = \frac{P(n, r)}{r!}$$

n = total number of objects

r = number of objects taken at a time.

$$C(n, n) = \frac{P(n, n)}{n!} = \frac{n!}{n!} = 1$$