## Definition of Permutation and Combination

Permutation: Permutation can simply be defined as the several ways of arranging few or all members within a specific order. It is the process of legibly arranging from chaos. This is what is termed as a Permutation.

Combination: The combination is a process of selecting the objects or items from a set or the collection of objects, such that (unlike permutations) the order of selection of objects does not matter. It refers to the combination of $N$ things taken from a group of $K$ at a time without repetition.

## What is the Difference between Permutation and Combination?

Combination, on the other hand, can simply be defined as the method of selecting a group by taking up some or all members of a set. There is no particular order that is used to follow while combining elements of a set.

There are a lot of different ways of making up a combination and they are all right in their own ways; as there is no particular method of figuring out a combination the "right" way. Thus, this is defined as a combination. Using the combination formula, one can easily get the combination for any set.

| Difference between Permutation and Combination |  |
| :--- | :--- |
| Permutation | Combination |
| The different ways of arranging a set of <br> objects into a sequential order are <br> termed as Permutation. | One of the several ways of choosing items from a <br> large set of objects, without considering an order <br> is termed as Combination. |
| The order is very relevant. | The order is quite irrelevant. |
| It denotes the arrangement of objects. | It does not denote the arrangement of objects. |

Thus, these are the key differences between Permutation and Combination. It is important to understand how they differ from one another.

