in set A or in set B, or in both. The same elements cannot be used twice in the same set, or, it can be said that sets cannot have duplicate elements. Suppose, we have the set A= {1, 2, 3} and the set B= {2, 3, 4}. Thus, as the operation of A U B we find that A U B= {1, 2, 3, 4}. Multiple occurrences of identical elements have no effect on the cardinality of a set or its contents. A U B is known as the logical sum of A and B. Therefore, A U B can also be replaced by (A + B).

The union of sets can be summarized have certain properties like:

(a) Union of sets has no definite order. It doesn't matter in what order unions are taken, the operation can be used as functional in any order and the parenthesis may be omitted without any ambiguity. The union of sets can be expressed in the following way:
A U (B U C) = (AU B) U C

(b) Union of sets are commutative and as such, the sets can be written in any order i.e.; the operation of union can be represented as (A U B) = (B U A)

(c) The empty set is an identity element for the operation of union i.e.; A U λ = A, for any set A.

(d) One can take the union of several sets at once. For example, the union of A, B, and C contain all elements of A, all elements of B, and all elements of C, and nothing else. So, for an element of x, x is an element of A U B U C, if and only if x is in A, or in B, or in C.

(e) The union of any set with itself is of same value i.e.; (A U A) = A.



LET US KNOW

The union of set A and B is the set, which consists of all the elements of A and all the elements of B, however the common elements in both these sets are taken only once.