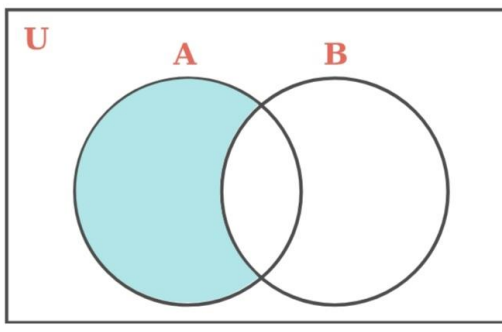
Let A and B be two sets. The set difference of A and B, denoted as A – B, is the set of all the elements of A that are not members of B.

Let A and B be two sets. The set difference A – B is :

$$A - B = \{x \in A \; and \; x \notin B\}$$



Elements belonging to the set difference A – B are those elements that belong to A and do not belong to B.

1. If $A = \{a, b, c, d\}$ and $B = \{b, d\}$, then $A - B$ és $A - B = \{a, c\}$.
2. If $A = \{a, b, c, d\}$ and $B = \{c, d, e, f\}$, then $A - B = \{a, b\}$.
3. If $W = \{x \mid x \text{ odd and } x < 13\}$ and $Z = \{7, 8, 9, 10, 11, 12, 13\}$, then $W - Z = \{1, 3, 5\}$ and $Z - W = \{8, 10, 12, 13\}$.

Note that the set difference operation is not a cpmmutative operation and if A, B are two disjoint sets, then A – B = A and B – A = B.

Some properties of the set difference :

1. $A - A = \emptyset$
2. $A - \emptyset = \emptyset - A = A$
3. $A - B = A \cap B^c$
4. $A \subset B \Leftrightarrow A - B = \emptyset$
5. $A - (A - B) = A \cap B$
6. $A \cap (B - C) = (A \cap B) - (A \cap C)$