Types of relations:

→ Relation consists of following different types:

   (i) Unary

   (ii) Binary.

   (iii) Ternary.

   (iv) n-ary.

(i) Unary Relation:

→ Having only one set: i.e;

$$A = \{1, 2, 3, 4\}$$

(ii) Binary Relation:

→ Having two different sets and their cartesian product. i.e:

$$A = \{1, 2\} \ , \ B = \{1, 2, 3\}.$$

$$R_1 = \{(1,1), (1,2)\} \subseteq A \times B.$$

$$R_2 = \{(1,3), (2,3)\} \subseteq A \times B$$

(iii) Ternary Relation:

→ Having three different sets and their ternary relation as cartesian product. i.e:

$$A = \{1, 2, 3\} \ , \ B = \{2, 5, 6\} \ , \ C = \{4, 5, 7\}.$$

$$R = \{(2,5,5), (3,2,5), (2,2,4)\}$$
$$\subseteq A \times B \times C.$$

(IV) **n-ary Relation:**

→ Having more then three sets and their cartesian product. i.e:

$$A_1 \times A_2 \times A_3 \times \ldots \times A_n.$$