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**14/SCI01/025**

**CSC 409**

**Properties of Relation**

• Reflexive Property: A relation in which all the elements follow the property A→→A. i.e.

All the elements are related to themselves is known as reflexive relation.

If for all x in set X, the relation G = xRx holds true then G is said to be reflexive otherwise it would be irreflexive.

• Symmetric Property: A relation in which all the elements follow the property such that, if A→→B then B→→A is said to be Symmetric relation.

If for all x and y in X, the relation G = xRy = yRx holds true then G is said to be Symmetric otherwise it would be antisymmetric.

• Transitive Property: A relation in which all the elements follow the property such that, if A→→B and B→→C then A→→C is said to be Transitive relation.

It is possible that a relation may not have any one of the above mentioned properties, it may have some of these properties or it might agree to all the properties.

A relation on a set A is called an equivalence relation if it has all the above 3 properties, that is, if its reflexive, symmetric and transitive.