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## Assignment - 1

1) For Reflexive: - In social media connections everyone is friend of itself, so Everyone is friends with themselves, we can say like that Every subset is a subset of itself.

For Symmetric: - Let Rohan is a friend of Sohan, then obviously we can say that Sohan is friend of Rohan. So, it is a symmetric relation.

For Transitive: - Let  $x$  is a friend of  $y$  and  $y$  is a friend of  $z$ , then  $x$  maybe or maybe not a friend of  $z$ . We can't sure whether it is transitive or not.

Solution 2: - The function is both injective and surjective.

for injective: - if each student is enrolled in only one course.

for surjective: - if each course has at least one student enrolled in it.

Solution 3:- Let be the three bus stop is

i> Agra. ii> Mathura iii> Delhi

For Symmetric  
Reflexive:- If you reach stop Agra to Mathura then, you will also reach Mathura to Agra.  
So, it is a symmetric relation.

For Reflexive:- Every stop/location is accessible from itself.

For Transitive:- If you can reach Agra to Mathura and Mathura to Delhi, then you can also reach Agra to Delhi.

Solution-4:- we consider a two user/programmer 'A' and 'B'

The two user 'A' and 'B' are equivalent only and only if they share at least one common interest.

Solution 5:- i> Function is a way that show a relation b/w tables which are created in the database.

ii> Function is used to fetch/optimize a query details by joining efficiently.

Solution 6:- Relation:- Represents which device can communicate directly.

for example ABCD is a square and A is directly communicate with C and B with D for a diagonal.

modeling using graph theory :- we can understand  
with edges of square represent the connection  
and devices is represented by vertices.