

Important definitions to remember related with Relations:

Let A and B are two sets. In domain, co-domain and range of a relation, if R be a relation from A to B then

Domain of relation R ( $\text{Dom}(R)$ ) is the set of all those elements  $a \in A$  such that  $(a, b) \in R$  for some  $b \in B$ .

If R be a relation from A to B, then B is the co-domain of R.

Range of relation R is the set of all those elements  $b \in B$  such that  $(a, b) \in R$  for some  $a \in A$ .

In short: Domain =  $\text{Dom}(R) = \{a : (a, b) \in R\}$  and Range  
(R) =  $\{b : (a, b) \in R\}$

Note: Range is always a subset of co-domain.