

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.