

Inverse Relation.

Let A, B be two sets and let R be a relation from a set A to a set B . Then the inverse of R , denoted by R^{-1} , is a relation from B to A and is defined by $R^{-1} = \{(b, a) : (a, b) \in R\}$

Clearly $(a, b) \in R \Leftrightarrow (b, a) \in R^{-1}$.

Also, $\text{Dom}(R) = \text{Range}(R^{-1})$ and $\text{Range}(R) = \text{Dom}(R^{-1})$