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MODULE *Utils*

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EXTENDS *Integers*

$Max(n1, n2) \triangleq \text{IF } n1 > n2 \text{ THEN } n1 \text{ ELSE } n2$

Stuff about relations

$Domain(R) \triangleq \{r[1] : r \in R\}$

$Image(R) \triangleq \{r[2] : r \in R\}$

$TransitiveClosure(R) \triangleq R \cup$   
 $\{r \in Domain(R) \times Image(R) :$   
 $\quad \exists z \in Domain(R) : \langle r[1], z \rangle \in R \wedge \langle z, r[2] \rangle \in R\}$