

Def:

reflexive if $(a, a) \in R$ for every element $a \in A$

irreflexive if $(a, a) \notin R$ for every element $a \in A$

symmetric if $(b, a) \in R$ whenever $(a, b) \in R$, for all $a, b \in A$

antisymmetric if $(a, b) \in R$ and $(b, a) \in R$ for all $a, b \in A$ then $a = b$

transitive if $(a, b) \in R$ and $(b, c) \in R$ for all $a, b, c \in A$, then $(a, c) \in R$

Def Relation R on set A is
called an equivalence relation if
it is

reflexive

symmetric

transitive