⬦ Equivalence Relations

1 Why

We want to handle at once all the objects of a set which are indistinguishable or equivalent in some aspect. We want to generalize the key properties of identity.

2 Definition

An *equivalence relation* is a reflexive, symmetric, and transitive relation.

2.1 Notation

If R is an equivalence relation on a set A, we use the symbol $\sim$. When alone, $\sim$ is read aloud as "sim," but we still read $a \sim b$ aloud as "a equivalent to b."

Equivalence Relations

Relations

Ordered Pairs

Empty Set

Unordered Pairs

Set Specification

Set Inclusion

Sentences

Set Equality

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