



Why

We can give the same object two different names.

Definition

An object *is* itself. If the object denoted by one name is the same as the object denoted by a second name, then we say that the two names are *equal*. The object associated with a *name* is the *identity* of the name.

Let A denote an object and let B denote an object. Here we are using A and B as placeholders. They are names for objects, but we do not know—or care—which objects. We say “ A equals B ” as a shorthand for “the object denoted by A is the same as the object denoted by B .” In other words, A and B are two names for the same object.

Symmetry

Let A denote an object and let B denote an object. “ A equals B ” means the same as “ B equals A ”. The identity of the names is not dependent on the order in which the names are given. We call this the *symmetry of identity*. It means we can switch the spots of A and B and say the same thing. In other words, there are two ways to make the statement.

Reflexivity

Let A denote an object. Since every object is the same as itself, the object denoted by A is the same as the object denoted by A . We say “ A equals A ”. In other words, every name equals itself. This fact is called the *reflexivity of identity*. A name is equal to itself because an object is itself.

