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

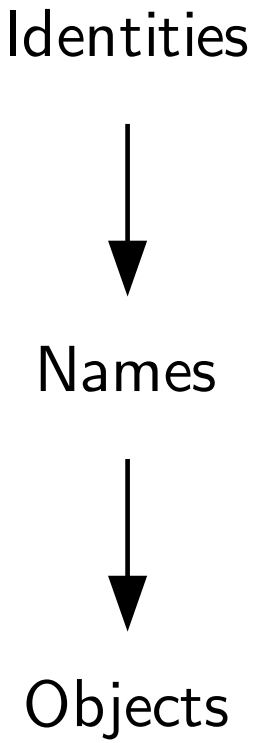
"A equals B" means the same as "B equals A". This is because the identity of the object is not changed by the order in which the names are given.

This fact is called the *symmetry of identity*. It is obvious. Not subtle in the slightest. We can switch the spots of A and B and say the same thing. There are two ways to say the same thing.

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*. It too is obvious. And not subtle. We can always declare that the same symbol denotes the same object. We agreed upon this in *Names*.


Identities
Names
Objects