



# Identity

## 1 Why

We can give the same object two different names.

## 2 Definition

An object *is* itself. If the object that two names refer to is the same, then we say that the first name *equals* the second name.

### 2.1 Notation

We denote that the object named  $a$  and the object named  $b$  refer to the same object by  $a = b$ , read aloud as: “ $a$  is  $b$ .” We denote that the object  $a$  and  $b$  refer to different objects by  $a \neq b$ , read aloud as: “ $a$  is not  $b$ .”

We may also read the notation  $a = b$  aloud as “ $a$  equals  $b$ ”. Other English readings include: “ $a$  is the same as  $b$ ”, “ $a$  is equivalent to  $b$ ”, “ $a$  refers to the same object as  $b$ .”

Identity



Objects