Definition (Identity morphisms)
An identity morphism, or just *identity*, for an object X is a morphism

$$\mathrm{Id}_X : X \to X$$

that is an identity for composition with all other compatible morphisms in the category:

$$\frac{f : X \to Y}{\mathrm{Id}_X \fatsemi f = f = f \fatsemi \mathrm{Id}_Y}.$$

From the properties of monoids applied to $\mathrm{Hom}(X;X)$, if an identity exists, it is unique.