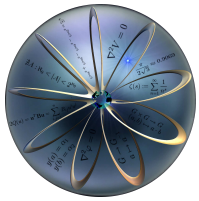

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autofunctor

Canonical name	Autofunctor
Date of creation	2013-03-22 13:07:33
Last modified on	2013-03-22 13:07:33
Owner	mathcam (2727)
Last modified by	mathcam (2727)
Numerical id	17
Author	mathcam (2727)
Entry type	Definition
Classification	msc 18A05

Let $F\colon \mathcal{C} \to \mathcal{C}$ be an endofunctor on a category $\mathcal{C}$. If F is a bijection on both objects, $\mathrm{Ob}(\mathcal{C})$, and morphisms, $\mathrm{Mor}(\mathcal{C})$, then it is an autofunctor.

In short, an autofunctor is a full and faithful endofunctor $F\colon \mathcal{C} \to \mathcal{C}$ such that the mapping $b : \mathrm{Ob}(\mathcal{C}) \to \mathrm{Ob}(\mathcal{C})$ which is induced by F is a bijection.

An autofunctor $F\colon \mathcal{C} \to \mathcal{C}$ is naturally isomorphic to the identity functor $\mathrm{Id}_{\mathcal{C}} : \mathcal{C} \to \mathcal{C}$.