0.1 Representable Functors

Let $\mathcal{C}$ be a locally small category, $C \in obj(\mathcal{C})$ and $Hom_{\mathcal{C}}(C, -) : \mathcal{C} \to Set$. If the morphisms are set function, this will be a faithful (injective) mapping.

Contravariant of a representable functor $Hom_{\mathcal{C}}(-, C) : C^{op} \to Set$

Ring of continuous functions $C(X)$ -wow- $f : X \to R | fiscontinuous$