

Definition

Let $\langle \mathbf{C}, \otimes, \mathbf{un} \rangle$ be a strict monoidal category. Its associated operad $\mathcal{O}_{\mathbf{C}}$ has:

1. *Objects:* $\mathbf{Ob}_{\mathcal{O}_{\mathbf{C}}} = \mathbf{Ob}_{\mathbf{C}}$;
2. *Morphisms:* $\mathbf{Hom}_{\mathcal{O}_{\mathbf{C}}}([X_1, \dots, X_n]; Y) = \mathbf{Hom}_{\mathbf{C}}(X_1 \otimes \dots \otimes X_n; Y)$;
3. *Identity morphism:* $\mathbf{Id}_X \in \mathbf{Hom}_{\mathcal{O}_{\mathbf{C}}}([X]; X) = \mathbf{Id}_X \in \mathbf{Hom}_{\mathbf{C}}(X; X)$;
4. *Composition of morphisms:*