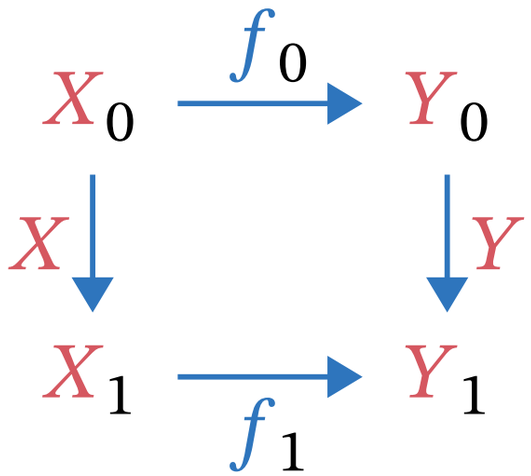
Definition (Arrow category)

Given any category $\mathbf{C}$, its *arrow category* $\mathbf{Arr}(\mathbf{C})$ is the category in which:

1. *Objects:* An object $X \in \mathbf{Arr}(\mathbf{A})$ is a morphism $X : X_0 \to X_1$ of $\mathbf{C}$;
2. *Morphisms:* A morphism $f : X \to Y$ in $\mathbf{Arr}(\mathbf{C})$ is a commutative square



   in $\mathbf{C}$;
3. *Composition:* Composition in $\mathbf{Arr}(\mathbf{C})$ is given by playing commutative squares side by side.