Definition (Enriched category). We say that a category $\mathbf{C}$ is enriched in $\mathbf{D}$ if:

1. For all objects X, Y of $\mathbf{C}$, the set $\mathrm{Hom}_{\mathbf{C}}(X; Y)$ can be considered an object of $\mathbf{D}$;
2. $\mathbf{D}$ is a monoidal category (**??**), with monoidal product $\otimes_{\mathbf{D}}$;
3. For all objects X, Y, Z of $\mathbf{C}$, there exists a certain morphism $m_{X,Y,Z}$ in $\mathbf{D}$, which goes from the object $\mathrm{Hom}_{\mathbf{C}}(X; Y) \otimes_{\mathbf{D}} \mathrm{Hom}_{\mathbf{C}}(Y; Z)$ to the object $\mathrm{Hom}_{\mathbf{C}}(X; Z)$:

$$m_{X,Y,Z} : \mathrm{Hom}_{\mathbf{C}}(X; Y) \otimes_{\mathbf{D}} \mathrm{Hom}_{\mathbf{C}}(Y; Z) \to \mathrm{Hom}_{\mathbf{C}}(X; Z).$$