Definition (Semi-functor). Given two semi-categories \mathbf{C} and \mathbf{D} , a *semi-functor* $F: \mathbf{C} \to \mathbf{D}$ from \mathbf{C} to \mathbf{D} is defined by the following data and conditions.

Data:

i) A map

$$F_{\rm ob}: {\rm Ob}_{\bf C} \rightarrow {\rm Ob}_{\bf D}.$$

ii) For every pair of objects X, Y of C a map

$$F_{\text{mor}}: \text{Hom}_{\mathbf{C}}(X; Y) \to \text{Hom}_{\mathbf{D}}(F_{\text{ob}}(X); F_{\text{ob}}(Y))$$

Conditions:

1. It holds that

$$\frac{f: X \to_{\mathbf{C}} Y \quad g: Y \to_{\mathbf{C}} Z}{F_{\text{mor}}(f \ ; g) = F_{\text{mor}}(f) \ ; F_{\text{mor}}(g)}.$$