

# Definition (**Moo**)

The *semi-category of Moore machines* **Moo** is given by:

1. *Objects*: objects of **SetL**.
2. *Morphisms*: A morphism is a tuple

$$f = \langle \mathbf{U}_f, \mathbf{X}_f, \mathbf{Y}_f, \text{dyn}_f, \text{ro}_f, \text{start}_f \rangle,$$

where:

- ▷  $\mathbf{U}, \mathbf{X}, \mathbf{Y}$  are objects of **SetL**.
- ▷  $\text{dyn} : \mathbf{U} \rightarrow_{\text{SetL}} \mathbf{End}(\mathbf{X})$ ;
- ▷  $\text{ro} : \mathbf{X} \rightarrow_{\text{SetL}} \mathbf{Y}$ .

3. *Composition of morphisms*: Composition is given by ??????.