Definition (Moo)

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

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

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

   where:

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

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