## Objects: The objects of this category are all posets. Morphisms: The morphisms from a poset X to a poset Y are the monotone maps from X to Y.

**Definition** (Category **Pos**). The category **Pos** is defined by:

map  $Id_X$ .

4. Composition operation: The composition operation is composition of maps.

3. *Identity morphism*: The identity morphism for the poset X is the identity