Definition (Properties of endorelations). An endorelation $R \subseteq \mathbf{A} \times \mathbf{A}$ is:

- ▷ *Symmetric* if $\forall x, x' \in \mathbf{A}: \langle x, x' \rangle \in R \Leftrightarrow \langle x', x \rangle \in R$;
- ▷ *Reflexive* if $\forall x \in \mathbf{A}: \langle x, x \rangle \in R$;
- ▷ *Transitive* if $\forall x, x', x'' \in \mathbf{A}: (\langle x, x' \rangle \in R \wedge \langle x', x'' \rangle \in R) \Rightarrow \langle x, x'' \rangle \in R$.