Definition (Order on **DP**)

Suppose that $\mathbf{P}$ and $\mathbf{Q}$ are posets, and that $\mathbf{d}, \mathbf{e} : \mathbf{P} \nrightarrow \mathbf{Q}$ are design problems. We define the order as follows:

$$\frac{\mathbf{d} \preceq_{\mathbf{DP}} \mathbf{e}}{\mathbf{d}(p^*, q) \preceq_{\mathbf{Bool}} \mathbf{e}(p^*, q)},$$

for all $p \in \mathbf{P}, q \in \mathbf{Q}$.