Definition (Feasible set of a design problem)
We define the *feasible set* $K_{\mathbf{d}}$ of a design problem

$$\mathbf{d} : \mathbf{F}^{\mathrm{op}} \times \mathbf{R} \to_{\mathbf{Pos}} \mathbf{Bool}$$

as the subset of $\mathbf{F}^{\mathrm{op}} \times \mathbf{R}$ for which $\mathbf{d}$ is the *indicator function*, that is

$$K_{\mathbf{d}} = \{\langle f^*, r\rangle \in \mathbf{F}^{\mathrm{op}} \times \mathbf{R} \mid \mathbf{d}(f^*, r) = \top\}.$$