Definition (Monoidal product in **DP**)**.** Given two design problems $\mathbf{f} : \mathbf{A} \nrightarrow \mathbf{B}$ and $\mathbf{g} : \mathbf{C} \nrightarrow \mathbf{D}$, their *monoidal product* $\mathbf{f} \otimes \mathbf{g} : \mathbf{A} \times \mathbf{C} \nrightarrow \mathbf{B} \times \mathbf{D}$ is their conjunction:

$$\begin{aligned} \mathbf{f} \otimes \mathbf{g} : (\mathbf{A} \times \mathbf{C})^{\mathrm{op}} \times (\mathbf{B} \times \mathbf{D}) &\to_{\mathbf{Pos}} \mathbf{Bool}, \\ \left\langle \langle a, c \rangle^* , \langle b, d \rangle \right\rangle &\mapsto \mathbf{f}(a^*, b) \wedge \mathbf{g}(c^*, d). \end{aligned}$$

The diagrammatic representation of the monoidal product is reported in **??**.