Definition (Sum of functionalities for monoidal posets)
If the poset $\mathbf{P}$ is monoidal with monoidal product $\otimes$, then the "*sum*" of m copies of $\mathbf{P}$ is a design problem given by

$$\Sigma_m : \mathbf{P} \times (\mathbf{P}^m)^{\mathrm{op}} \longrightarrow_{\mathbf{Pos}} \mathbf{Bool}$$

$$\langle x^*, \langle y_1, \ldots, y_m \rangle \rangle \longmapsto (x \preceq_{\mathbf{P}} y_1 \otimes \cdots \otimes y_m).$$

Diagrammatically: