**Lemma.** For any  $P, Q \in Ob_{DP}$ , the design problem  $br_{P,Q}: P \times Q \longrightarrow Q \times P$  given by

 $\operatorname{br}_{\mathbf{P},\mathbf{Q}}(\langle p_1,q_1\rangle^*,\langle q_2,p_2\rangle):=(p_1\leq_{\mathbf{P}}p_2)\wedge(q_1\leq_{\mathbf{Q}}q_2)$ 

constitutes the braiding operation for a symmetric monoidal structure on  $\langle \mathbf{DP}, \otimes, \{\bullet\} \rangle$ . In other words,  $\langle \mathbf{DP}, \otimes, \{\bullet\}, br \rangle$  is a symmetric monoidal category.