

Exercises Database Normalization

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1. Consider the relation $R(A, B, C, D, E)$ together with the functional dependencies.

$$\begin{aligned}D &\rightarrow A \\E &\rightarrow A, D \\C, D &\rightarrow A \\A, E &\rightarrow C \\B &\rightarrow A, D, E\end{aligned}$$

Compute a set of canonical (minimal dependencies).

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2. Transform the relation in task 1 to BCNF using the synthesis algorithm.
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3. Transform the relation in task 1 to 3NF using the synthesis algorithm.