

# Questions about normalization

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## Question 1

Given a relation:

$$R: \{[\underline{A}, B, C, D]\}$$

where **A** and **B** are parts of the primary key. Following are the functional dependencies:

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

Which normal form is **R** in?

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answer

**R** is only in the 2nd normal form. There's a hidden transitive dependency which is not a subset of the primary key:

$$\{\underline{A, B}\} \rightarrow \{B, C\} \rightarrow D$$