

Tutorial 3 —

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What are the non-trivial functional dependencies in the following table?

Also, what are the superkeys in the table? What about candidate keys?

id	name	address
1	Alice	123 Park Place
2	Alice	85 Seagram Drive
3	Bob	161 University Avenue W
4	Bob	85 Seagram Drive

What is the highest normal form that the following table fits?

PersonID	Name	FavouriteColourID	ColourName
1	Alice	1	Green
2	Bob	1	Green
3	Eve	2	Blue

What is the highest normal form that the following relation $R(A, B, C, D)$ fits?

$$A \rightarrow B$$

$$A \rightarrow C$$

$$C \rightarrow D$$

What is the highest normal form that the following relation $R(A, B, C, D, E)$ fits?

$A \rightarrow BCDE$

$E \rightarrow ABCD$

$C \rightarrow D$

What is the highest normal form that the following relation $R(A, B, C, D, E, F)$ fits?

$$AB \rightarrow CDEF$$
$$EF \rightarrow ABCD$$
$$C \rightarrow E$$

What is a canonical cover for the following set of FDs?

1 $A \rightarrow BC$

2 $CD \rightarrow E$

3 $B \rightarrow D$

4 $E \rightarrow A$

What is a canonical cover for the following set of FDs?

1 $A \rightarrow BC$

2 $A \rightarrow B$

3 $B \rightarrow C$

4 $AB \rightarrow C$