

BMEG3120: Exercise List 10

Consider the set F of following functional dependencies on relation $R(ABCDE)$:

$$AB \rightarrow C$$

$$BC \rightarrow E$$

$$BD \rightarrow E$$

$$C \rightarrow B$$

$$D \rightarrow A$$

Answer the following questions.

Problem 1. Can we simplify F into the following set of FDs?

$$A \rightarrow C$$

$$BC \rightarrow E$$

$$BD \rightarrow E$$

$$C \rightarrow B$$

$$D \rightarrow A$$

Problem 2. Is R in 3NF?

Problem 3. Compute a minimal cover of F .

Problem 4. Decompose R into 3NF tables.