Exercise 5

Due: 10:10 am on September 29, 2017

Submit at the beginning of class.
For all questions, assume the relation $R = (A, B, C, D, E)$. Consider two sets of non-trivial dependencies over $R$:

- $F_1 = \{C \rightarrow D, DE \rightarrow A, AE \rightarrow B, BD \rightarrow C\}$ and
- $F_2 = \{CD \rightarrow DE, CE \rightarrow AE, C \rightarrow D\}$

For each set of functional dependencies, find the following (1 pt each set):

1. The canonical cover
2. The candidate keys
3. $C^+$

Prove or disprove the following (2 pts each):

1. $AB \rightarrow BC \implies A \rightarrow C$
2. $AB \rightarrow CD \land A \rightarrow B \implies A \rightarrow C$