

Quiz 2, Fall 2018
CSCI 4380 Database Systems
Time: 15 minutes

Name 1: _____
Name 2: _____
Name 3: _____

Rules.

- Open book and notes. Do not use any electronic tools including your computer.
- You can talk to anyone in class. If you know the answer, help someone else in class.
- Each quiz must be by at least two and at most three people. Most quizzes should be by three people, so find someone to talk to. Put your name on one quiz only.

Question (Points: (a) 7, (b) 8, (c-d) 10). You are given the following relation:

$R(A, B, C, D, E, F)$, $\mathcal{F} = \{AB \rightarrow CDE, AE \rightarrow BF, F \rightarrow B\}$

(a) List all keys.

Answer.

(b) Is it in BCNF? Is it in 3NF? Explain why or why not by discussing whether each functional dependency satisfies BCNF or 3NF conditions.

Answer.

(c) Convert to BCNF using BCNF decomposition if it is not already in BCNF.

Answer.

Don't forget to answer part (d) in the back.

- (d) Convert to 3NF using 3NF decomposition if it is not already in 3NF.

Answer.