CSCD 327 Lab 6 (14 points)

Due: November 25th, 2020

1. (4 points) A given relation R={A, B, C, D, E} is decomposed into two relations: R1={A, B, C, E}, R2={B, C, D}
    a. Based on the given set of FDs F={B→E, CE→A}, is the above decomposition a lossless-join decomposition? Why?

    b. Based on the given set of FDs F={E→D, BC→A }, is the above decomposition a lossless-join decomposition? Why?

2. (10 points) A given relation R={A, B, C, D, E}, and a given set of FDs F={AB→C, DE→C, B→D}.
    a. Is R in BCNF? If not, do the decomposition accordingly.

    b. Is your decomposition a lossless-join decomposition? Why?

    c. Is your decomposition a dependency-preserving decomposition? Why?

    d. List all the candidate keys of relation R.

    e. Is R in the 3rdNF? Why?