**Problem 1a**

**Problem 1b**

**Problem 1c**

is not because it is redundant to

is not because of the redundancy:

**Problem 1d**

Exactly 2 candidate keys:

**Problem 1e**

No, it does not violate 3NF, because every element in B (d) is a member of some key

**Problem 1f**

R is decomposed into the following relations: