

Normalization Worksheet

Name _____

Consider each of the following relations which have four attributes (ABCD) and their dependencies. For each of them show three things: a) all the candidate keys, b) the strongest normal form that is satisfied of 1NF, 2NF, 3NF, BCNF c) if the relation is not in BCNF show a decomposition that will make it BCNF. If this decomposition is **not** dependency preserving note this.

1. $C \rightarrow A$, $C \rightarrow D$, $B \rightarrow C$

a)

b)

c)

2. $B \rightarrow C$, $D \rightarrow A$

a)

b)

c)

3. $ABC \rightarrow D$, $D \rightarrow A$

a)

b)

c)

4. $A \rightarrow B$, $BC \rightarrow D$, $A \rightarrow C$

a)

b)

c)

5. $AB \rightarrow C$, $AB \rightarrow D$, $C \rightarrow A$, $D \rightarrow B$

a)

b)

c)