Name 1: **Date:**
Name 2:

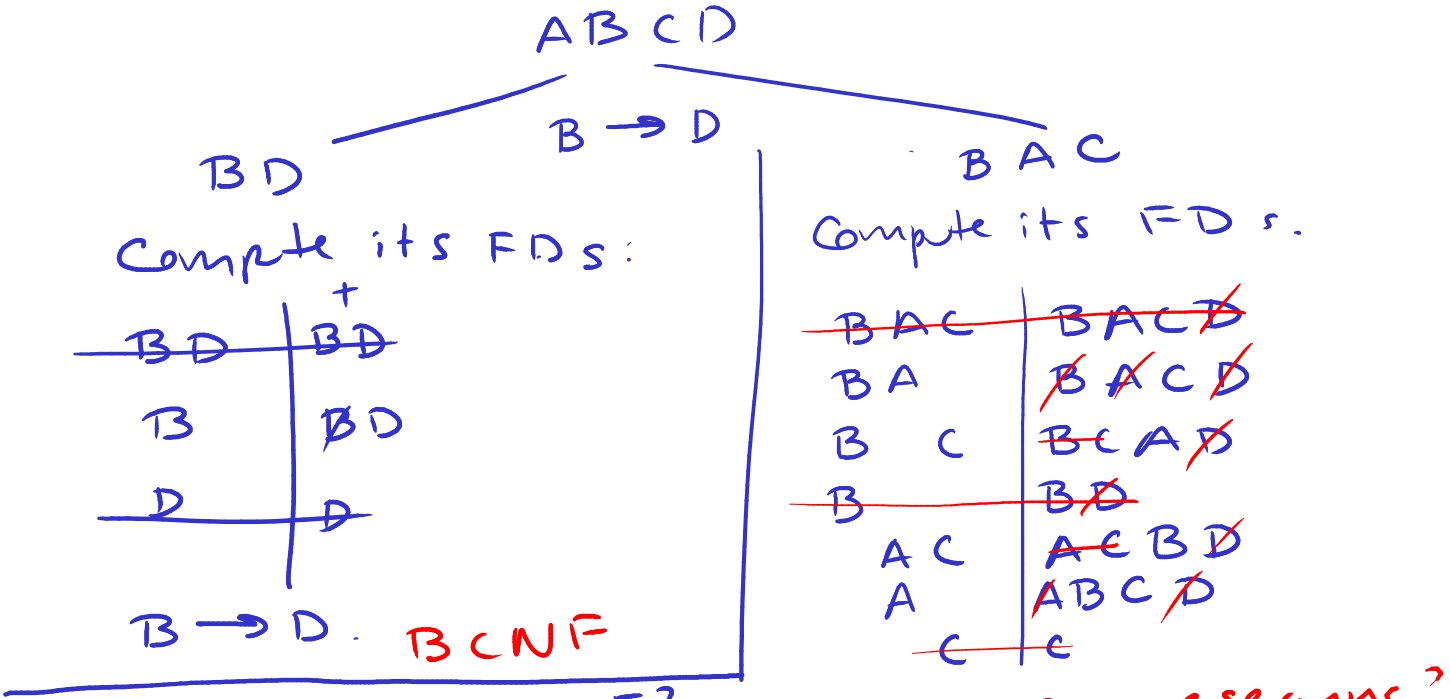
Let relation R = (A, B, C, D) with the following FDs:

A->BC
BC->A
B->D

1. Is this relation BCNF?

✓ $A \rightarrow BC$ $\{A\}^+ = \{A, B, C, D\}$
✓ $BC \rightarrow A$ $\{BC\}^+ = \{B, C, A, D\}$
$B \rightarrow D$ $\{B\}^+ = \{B, D\}$ Not BCNF.

2. Decompose this relation into a set of BCNF subrelations



BA → C
BC → A
AC → B
A → BC

is it BCNF?

all are SKs.

BAC is BCNF.

is it FD preserving?

Yes. we can generate the original FDs from the derived FDs.