CS 579 HW5 | Jiankun Dong

Problem 1:

(a) A -> B

Cannot hold, because A: {10} doesn't uniquely identify a B tuple. ({b1} & {b2})

(b) B -> C

May hold. B: {b_1} -> {c_1}
{b_2} -> {c_2}
{b_3} -> {c_4}
{b_4} -> {c_1}

(c) B -> A

Cannot hold, when B is {b_1}, A can be {10} or {13}
it doesn't uniquely identifies a tuple.

(d) C -> A

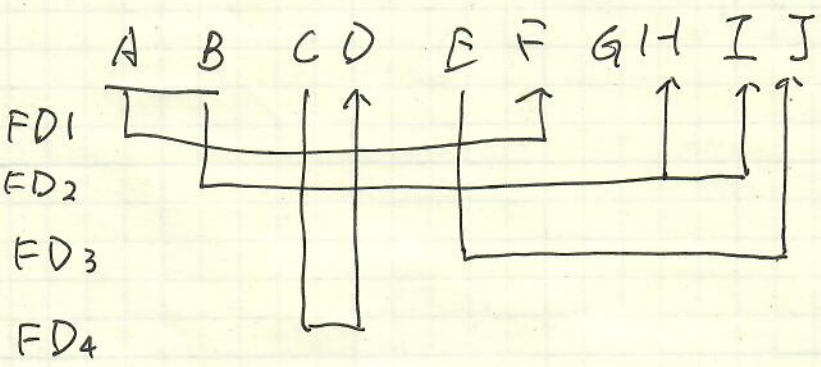
Cannot hold. when C: c_1, A can be 10, 11 or 13
it doesn't uniquely identify a tuple.

(e) D -> B

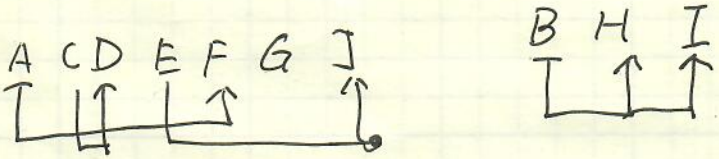
May Hold currently, each D value uniquely identifies a B value.

Problem 2:

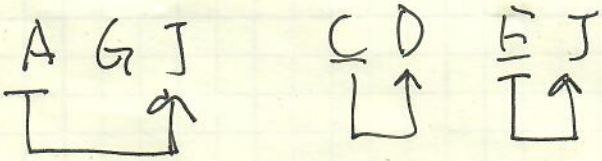
Start



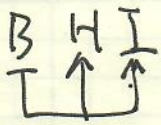
2NF:



3NF:

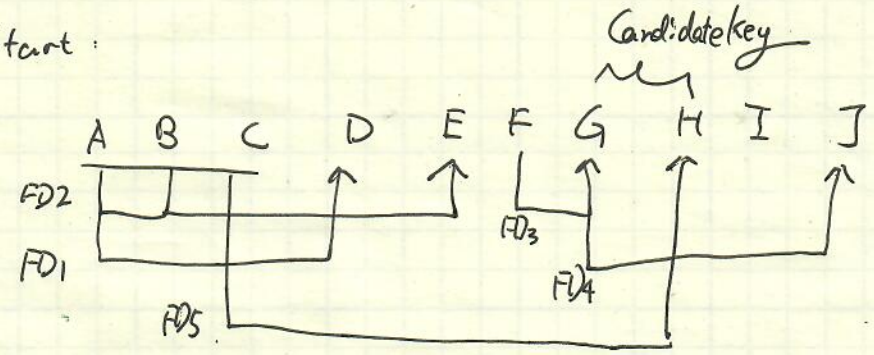


(Because A was the key)

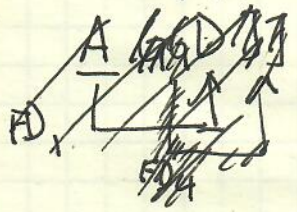


Problem 3:

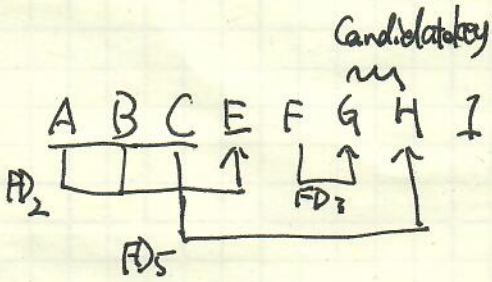
Start:

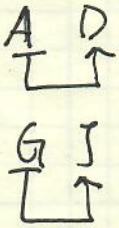
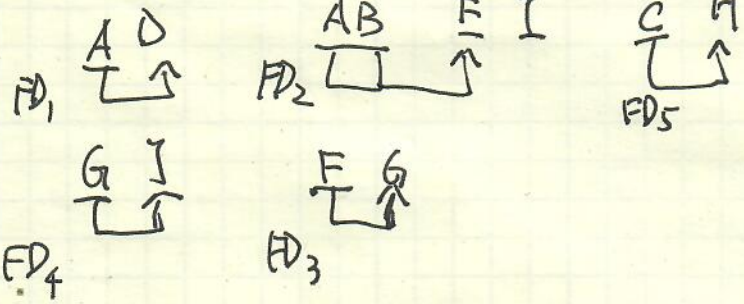


3NF: Candidate key



Candidate key





BCNF: