Check the Relation is 2NF or Not.

R(ABCD)

FD{A->B,B->C}

Candidate Key =AD P.A= AD NPA BC

Condition : LHS must be Proper Subset of CK and RHS must be non prime Attribute.

A->B AD {A},{D},{AD}

T and T Partial Dep

R1(ABC) R2(AD)

R1(ABC) A->BC,B->C

R1(ABC)

A+= ABC BC

B+= C

C+=

R1(ABC) CK =A Hence it is in 2NF

R2(AD) BCNF

**2NF**

**R(ABCDEF) 2NF?**

**{C->F,E->A,EC->D,A->B)**

**EC as Candidate Key**

**PA EC NPA =ABDF**

**Check for Partial Dependency EC= {E},{C},{EC}**

**C->F**

**T and T =T Partial Dependency**

**E->A**

**T and T =T Partial Dependncy**

**Hence This relation is not in 2NF**

**Check 3NF or not.**

**R(ABCD)**

**AB->C, C->D**

**CK = AB, PA=AB, NPA= CD**

**Condition : LHS must be a CK or RHS must be Prime Attribute.**

**AB+ = ABCD**

**3nf**

**R(ABCD)**

**AB->CD, D->A**

**Find CK**

**AB+ = ABCD**

**DB+= DBAC**

**CK={ AB,DB}**

**PA={A,B,D}**

**NPA={C}**

**AB->CD LHS =CK Hence 3NF**

**D->A RHS must be Prime A Hence 3NF**

**Hence Relation is in 3NF**

**Check BCNF**

**R(ABC)**

**{A->B,B->C,C->A}**

**Condition : LHS of Each FD must be CK or SK.**

**S.k. ABC+= {ABC}**

**S.k. AC+={ABC}**

**A+={ABC}**

**A,AC,ABC,B,C**

**BCNF**

**R(ABCDE)**

**FD{AB->CDE,D->A}**

**Not in BCNF**