

MAHID GONDAL DATABASES ASSIGNMENT 2 PART 2

Q4)

prod_vendor=(prod_id, price, model_num, vendor, delivery_price, storage)

A=prod_id

B=price

C=model_num

D=vendor

E=delivery_price

F=storage

$A \twoheadrightarrow B, C$

$D, F \twoheadrightarrow E$

listing =(prod_id, vendor)

product =(prod_id, price, model_num)

vendor =(vendor, storage, delivery_price)

This is lossless decomposition because product and listing have a common attribute prod_id and listing and vendor have common attribute vendor which means all data values from prod_vendor are linked and not lost.

Q5)

$C \twoheadrightarrow D$ and $C \twoheadrightarrow A$

but C is not superkey as $C \twoheadrightarrow B$ is not in F^+

therefore R is not BCNF

$R_1=(B, C), F_1=(B \twoheadrightarrow C);$

$R_2=(C, D, A), F_2=(C \twoheadrightarrow D, C \twoheadrightarrow A)$

Both FD's $C \twoheadrightarrow D$ and $C \twoheadrightarrow A$ are not trivial and do not have a superkey on their left.