

Name: Xiangyu Li
USCID: 4711115778
USC email: lixiangy@usc.edu

*****I am a beautiful comment line*****

A.Step 1

Supplier, Product, ImportDate -> Quantity

Supplier, Product, ImportDate -> Cost

Product -> DeptCode

Product -> UnitOfMeasure

A.Step 2

This doesn't satisfy any normal forms(1NF, 2NF, 3NF), because there are several repeating groups(Supplier and Product) in it which are not atomic. In 1NF, there should not be multivalued attributes or composite attributes, so this doesn't satisfy any one of normal forms.

A.Step 3

Supplier(Supplier_ID, Supplier_name)

Product(Product_ID, Product_name, DeptCode, UnitOfMeasure)

Buy(Supplier_ID, Product_ID, ImportDate, Quantity, Cost)

*****I am a beautiful comment line*****

*****I am a beautiful comment line*****

B.Step 1

Dept -> DeptName

ProductCode -> Dept

ProductCode -> UnitofMeasure

ProductCode, Date -> ListPrice

ProductCode, Date -> Quantity

ProductCode -> DeptName

B.Step 2

This satisfies the 1NF, but not 2NF, 3NF. Because there are not repeating groups in table, however partial dependence is in it.

B.Step 3

Department(Dept, DeptName)

Sell(ProductCode, Date, ListPrice, Quantity)

Product(ProductCode, Dept, UnitofMeasure)

*****| am a beautiful comment line*****

*****| am a beautiful comment line*****

C.Step 1

ReceiptID -> CustID

ReceiptID -> DateandTime

ReceiptID, ProductCode -> ActualPrice

ReceiptID, ProductCode -> Quantity

CustID -> CustName

CustID -> MembershipStatus

MembershipStatus -> Discount

CustID -> Discount

ReceiptID -> CustName

ReceiptID -> MembershipStatus

ReceiptID -> Discount

C.Step 2

This satisfies the 1NF, but not 2NF, 3NF. Because there are not repeating groups in table, however partial dependence is in it.

C.Step 3

Customer(CustID, CustName, MembershipStatus)

Membership(MembershipStatus, Discount)

ReceiptMade(ReceiptID, CustId, DateandTime)

ReceiptItem(ReceiptID, ProductCode, Quantity, ActualPrice)

*****| am a beautiful comment line*****