

DBMS Project Functional Dependency and Normal Forms

Group 7

April 2023

All Functional Dependencies

Farmer(FarmerID,Name,farmingType,City,LocationID,Rating)

FarmerID \longrightarrow Name

FarmerID \longrightarrow FarmingType

FarmerID \longrightarrow City

FarmerID \longrightarrow LocationID

FarmerID \longrightarrow Rating

Key : **FarmerID**

This relation is in **BCNF**

Buyer(BuyerID,Name,BuyerType,City,LocationID)

BuyerID \longrightarrow Name

BuyerID \longrightarrow BuyerType

BuyerID \longrightarrow City

BuyerID \longrightarrow LocationID

Key : **BuyerID**

This relation is in **BCNF**

Crop(cropName,CropCategory,ShelfLife)

CropID \longrightarrow CropName

CropID \longrightarrow CropCategory

CropID \longrightarrow ShelfLife

Key : **CropID**

This relation is in **BCNF**

Location(LocationID,State,RelativeDistance)

LocationID \rightarrow District
LocationID \rightarrow State
LocationID \rightarrow RelativeDistance

Key : **LocationID**

This relation is in **BCNF**

Transaction(TransactionID,BidID,TimeDate,PaymentMethod,ShippingCharges,TransactionAmount,PaymentStatus)

TransactionID \rightarrow BidID
TransactionID \rightarrow TimeDate
TransactionID \rightarrow PaymentMethod
TransactionID \rightarrow ShippingCharges
TransactionID \rightarrow TransactionAmount
TransactionID \rightarrow PaymentStatus

Key : **TransactionID**

This relation is in **BCNF**

Market(farmerID,CropID,HarvestTime,StartPrice,Quantity,Status)

{FarmerID , CropID , HarvestTime} \rightarrow StartPrice
{FarmerID , CropID , HarvestTime} \rightarrow Quantity
{FarmerID , CropID , HarvestTime} \rightarrow Status

Key : {**FarmerID , CropID , HarvestTime**}

This relation is in **BCNF**

Bid(BidID,BuyerID,BidStatus,Quantity,BidAmount,BidDate,FarmerID,CropID,HarvestTime)

BidID \rightarrow BuyerID
BidID \rightarrow BidStatus
BidID \rightarrow Quantity
BidID \rightarrow BidAmount
BidID \rightarrow BidDate
BidID \rightarrow FarmerID
BidID \rightarrow CropID
BidID \rightarrow HarvestTime

Key : **BidID**

This relation is in **BCNF**

CropRequested(BuyerID,FarmerID,CropID,Quantityrequested,AffordablePrice,Status,Time)

$\{ \text{BuyerID} , \text{FarmerID} , \text{CropID} \} \longrightarrow \text{QuantityRequested}$
 $\{ \text{BuyerID} , \text{FarmerID} , \text{CropID} \} \longrightarrow \text{AffordableAtPrice}$
 $\{ \text{BuyerID} , \text{FarmerID} , \text{CropID} \} \longrightarrow \text{Status}$
 $\{ \text{BuyerID} , \text{FarmerID} , \text{CropID} \} \longrightarrow \text{Time}$

Key : **{BuyerID , FarmerID , CropID}**
This relation is in **BCNF**

FarmerEmail(FarmerID,Email)

Key : **{FarmerID,Email}**
This relation is in **BCNF**

FarmerPhoneNo(FarmerID,PhoneNo)

Key : **{FarmerID,PhoneNo}**
This relation is in **BCNF**

BuyerEmail(BuyerID,Email)

Key : **{BuyerID,Email}**
This relation is in **BCNF**

BuyerPhoneNo(BuyerID,PhoneNo)

Key : **{BuyerID,PhoneNo}**
This relation is in **BCNF**