TABLES IN BCNF

AuctionUser

R(UserID, username, emailaddress, phonenumber, password, homeaddress, gender, age)

FD=(UserID->username, UserID->emailaddress, UserID->phonenumber, UserID->password, UserID->homeaddress, UserID->gender, UserID->age}

Bernstein’s algorithm

UserID+ = {UserID, username, emailaddress, phonenumber, password, homeaddress, gender, age}

* UserID+ contains ex. UserID -> username (X -> Y) therefore, FD is redundant and attributes are fully dependant on UserID(candidate key).

FD: UserID -> username, emailaddress, phonenumber, password, homeaddress, gender, age => BCNF

Seller

R(SellerID, depositinfo, UserID)

FD = (SellerID -> depositinfo, SellerID -> UserID)

Bernstein’s algorithm

SellerID+ = {SellerID, depositinfo, UserID}

* SellerID+ contains ex. sellerID -> depositinfo (X -> Y) therefore, FD is redundant and attributes are fully dependant on sellerID(candidate key).

FD: SellerID -> depositinfo, UserID => BCNF

Bidder

R(bidderId, shippingaddress, paymentinfo, userID)

FD = (bidderid -> shippingaddress, bidderid -> paymentinfo, bidderid -> userID)

Bernstein’s algorithm

BidderID+ = {bidderId, shippingaddress, paymentinfo, userID} no redundancy and fully dependant

* BidderID contains ex. bidderID -> shippingaddress therefore, FD is redundant and attributes are fully dependant on bidderID(candidate key)

BidderId is the candidate key

FD: bidderid -> shippingaddress, paymentinfo, userID => BCNF

BID

R(bidid, bidderid, price, status, submittime)

BIDID + = {bidid, bidderid, price, status, submittime} no redundancy and fully dependant

Bidid is candidate key

FD = bidid -> bidderid, price, status, submittime => BCNF

AucitonItem

R(auctionitemid, title, description, startprice, endprice, starttime, endtime, sellerid, bidid)

Auctionitemid is candidate key

FD = Auctionitemid -> title, description, startprice, endprice, starttime, endtime, sellerid, bidid => BCNF

ItemCategory

R(CategoryID, Categoryname, AuctionItemID)

category ID is candidate key

FD = CategoryID -> Categoryname, AuctionItemID => BCNF