

DBMS Project

Group 1.13 Supermarket Database

Minimal FD set:

Fmin={

```
Itemcode -> {MRP,sellout_period,stock,sectionID}
{productname,quantity,units,flavour} -> itemcode
{productname,size, age_group, colour, gender} -> itemcode
{productname,units,quantity,fragrance/aroma,gender} -> itemcode
productname -> {bestbefore,type,return_policy,brandname,gst}
licenseno -> {supplier_name, address_pin, address_city, address_street, contactno}
{licenseno,itemcode,date} -> {qty,cost_price}
invno -> {bill_date, bill_time, bill_amount, payment_mode, cashier_ssn, customer_id}
{invno,itemcode} -> {qty(purchased), discount_applied, purchaseprice}
sectionID -> section_name
{complaincode} -> {invno,itemcode,complainer_name, contactno, status(complaint),
                    description, serviced_by, action_taken }
memberid -> {contactno,email,name(member)}
ssn -> {name(employee), contactno, address_pin, address_city,
        address_street, gender, dob, salary, dno}
{ssn, shift_name} -> {is_present, date}
shift_name -> {in_time, out_time}
dno -> {dname, mgrssn},
mgrssn -> {dno}
{discountcode,itemcode} -> {qty,percentage(discount)},
discountcode -> {description, valid_till,valid_from}
}
```

Table employee:

Fprojected = {
 ssn -> {name(employee), contactno, address_pin, address_city, address_street,
 gender, dob, salary, dno}
 }
key= ssn

X from every X -> Y in Fprojected is super-key.
Therefore BCNF

Table department:

Fprojected = {
 dno -> {dname, mgrssn},
 mgrssn -> {dno},
 }
key= dno (or) mgrssn
dno is chosen

X from every X -> Y in Fprojected is super-key.
Therefore BCNF

Table shift assigns:

Fprojected = {}
key= {ssn, shift_name}

X from every X -> Y in Fprojected is super-key.
Therefore BCNF

Table Attendance:

Fprojected = {ssn, shift_name} -> {is_present, date}
key= {ssn, shift_name}

X from every X -> Y in Fprojected is super-key.
Therefore BCNF

Table Shift:

Fprojected = shift_name -> {in_time, out_time}
key= shift_name

X from every X \rightarrow Y in Fprojected is super-key.
Therefore BCNF

Table members:

Fprojected = memberid \rightarrow {contactno,email,name(member)}

Key=memberid

X from every X \rightarrow Y in Fprojected is super-key.
Therefore BCNF

Table Bill:

Fprojected = invno \rightarrow {bill_date, bill_time, bill_amount, payment_mode, cashier_ssn,
customer_id}

Key=invno

X from every X \rightarrow Y in Fprojected is super-key.
Therefore BCNF

Table bill details:

Fprojected = {invno,itemcode} \rightarrow {qty(purchased), discount_applied,
purchaseprice}

Key= {invno, itemcode}

X from every X \rightarrow Y in Fprojected is super-key.
Therefore BCNF

Table items:

Fprojected = Itemcode \rightarrow {MRP,sellout_period,stock,sectionID}

Key= itemcode

X from every X \rightarrow Y in Fprojected is super-key.
Therefore BCNF

Table storage area:

Fprojected = sectionID \rightarrow section_name

Key= sectionID

X from every X \rightarrow Y in Fprojected is super-key.
Therefore BCNF

Table supplier:

Fprojected = licenseno -> {supplier_name, address_pin, address_city, address_street, contactno}

Key=licenseno

X from every X -> Y in Fprojected is super-key.
Therefore BCNF

Table supply record:

Fprojected = {licenseno, itemcode, date} -> {qty, cost_price}

Key= {licenseno, itemcode, date}

X from every X -> Y in Fprojected is super-key.
Therefore BCNF

Table packed food description:

Fprojected = {
 {productname, units, quantity, flavour} -> itemcode},
 }

Key= productname, units, quantity, flavour

X from every X -> Y in Fprojected is super-key.
Therefore BCNF

Table clothes description:

Fprojected = {
 {productname, size, age_group, colour, gender} -> itemcode},
 }

Key= productname, size, age_group, colour, gender

X from every X -> Y in Fprojected is super-key.
Therefore BCNF

Table personalcare description:

Fprojected = {
 {productname, units, quantity, fragrance/aroma, gender} -> itemcode,
 }

Key= productname, units, quantity, fragrance/aroma, gender

X from every X -> Y in Fprojected is super-key.

Therefore BCNF

Table personalcare:

Fprojected = {
 productname -> bestbefore
 }
Key= productname

X from every X -> Y in Fprojected is super-key.
Therefore BCNF

Table packedfood:

Fprojected = {
 Productname -> bestbefore
 }
Key= productname

X from every X -> Y in Fprojected is super-key.
Therefore BCNF

Table clothes:

Fprojected = {
 Productname -> type
 }
Key= productname

X from every X -> Y in Fprojected is super-key.
Therefore BCNF

Table Product:

Fprojected = {
 productname -> {return_policy, brandname, gst}
 productname ->{brandname}
 }
Key= productname

X from every X -> Y in Fprojected is super-key.
Therefore BCNF

Table discount_products:

Fprojected = {discountcode,itemcode} -> {qty,percentage(discount)},
Key= discountcode,itemcode

X from every X -> Y in Fprojected is super-key.
Therefore BCNF

Table Discount:

Fprojected = code -> {description, valid_till, valid_from}

Key= code

X from every X -> Y in Fprojected is super-key.

Therefore BCNF

Table complain:

Fprojected = {

 {invno,itemcode,complain_date} -> {complainer_name, contactno,
 status(complaint),description, serviced_by, actions_taken
 }

Key= invno,itemcode,complain_date

X from every X -> Y in Fprojected is super-key.

Therefore BCNF