**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, addres\_street, gender, dob, salary, dno}

contactno(employee) ->{ssn}

{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, addres\_street, gender, dob, salary, dno}

contactno(employee) ->{ssn}

}

key= ssn (or) contactno

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 -> Y in Fprojected is super-key.

Therefore BCNF

**Table members:**

Fprojected = memberid -> {contactno,email,name(member)}

Key=memberid

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

Therefore BCNF

**Table Bill:**

Fprojected = invno -> {bill\_date, bill\_time, bill\_amount, payment\_mode, cashier\_ssn, customer\_id}

Key=invno

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

Therefore BCNF

**Table bill\_details:**

Fprojected = {invno,itemcode} -> {qty(purchased), discount\_applied, purchaseprice}

Key= {invno, itemcode}

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

Therefore BCNF

**Table items:**

Fprojected = Itemcode -> {MRP,sellout\_period,stock,sectionID}

Key= itemcode

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

Therefore BCNF

**Table storage\_area:**

Fprojected = sectionID -> section\_name

Key= sectionID

X from every X -> 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,comlplain\_date} -> {complainer\_name, contactno, status(complaint),description, serviced\_by, actions\_taken

}

Key= invno,itemcode,comlplain\_date

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

Therefore BCNF