DB Assignment #03

Q.1

NIN	Contract No	hours	eName	HNo	hloc

a) Insertion

If an employ is added for different hNo, NIN would be repeated (causing Primary key violation) and insertion anomaly would occur.

b) Deletion.

If we delete any employ using NIN so all the data of that employ would be deleted along with HNo and hloc. This is delete anomaly.

c). Update.

If we update any employ's detail using NIN so all the data would be updated as NIN is being repeated. Updating HNo and hloc will also need multiple updates.

b) NIN | contractNo | hours | eName | hNo | hLoc

Fd1

Pd   Fd2

Td   Fd3

Td   Fd4
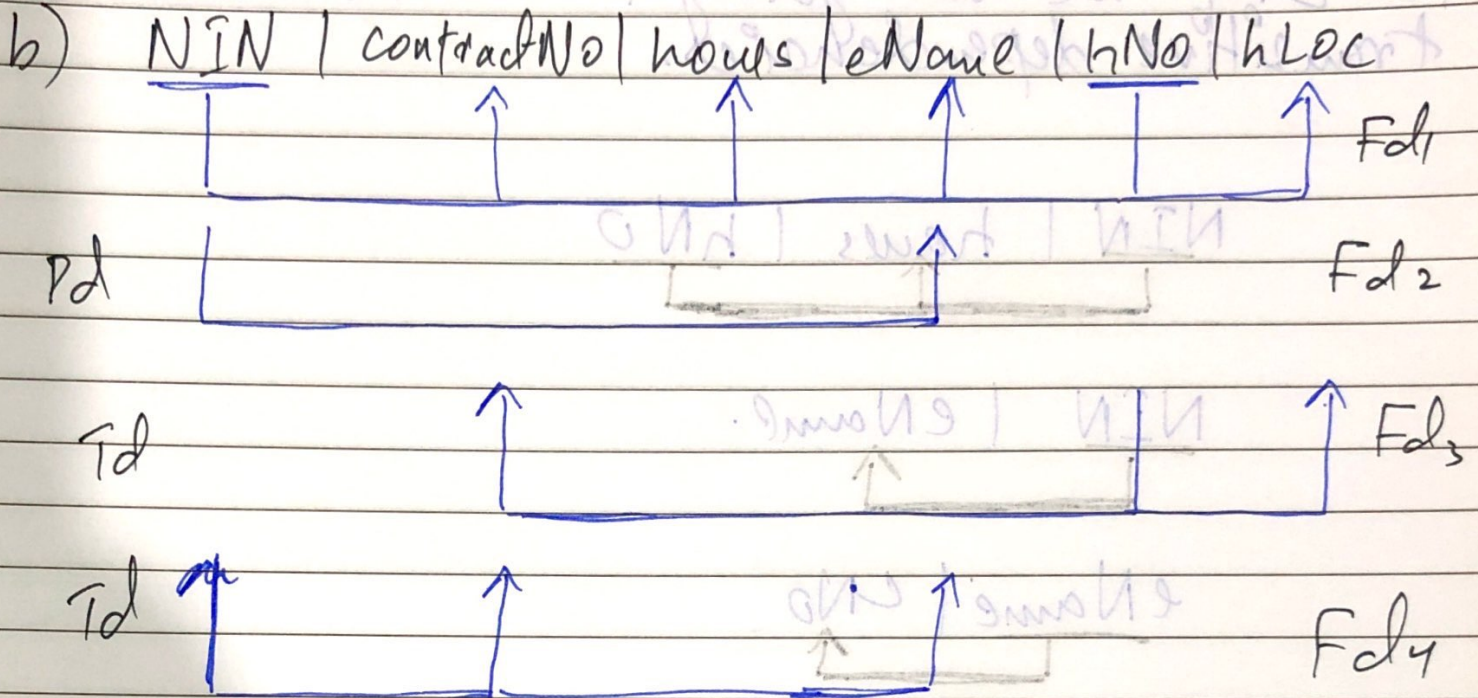
Table in 1st NF for 2nd NF remove Partial dependency as follows.

NIN | CNO | hours | ANO
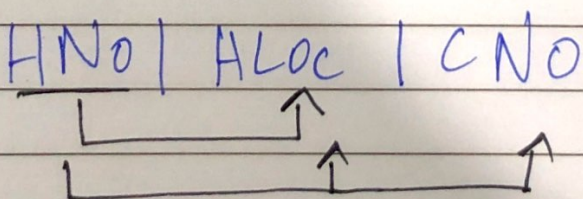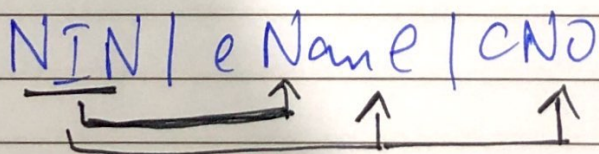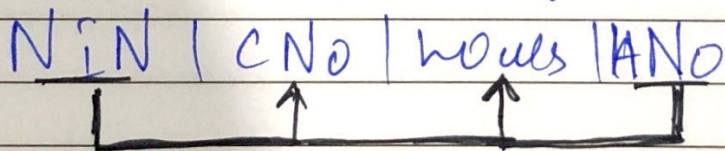
NIN | eName | CNO

HNO | HLoc | CNO

for 3NF we are going to remove all
transitive dependencies.

NIN | hours | hNO

NIN | eName.

eName | CNO

hNO | hloc

Q.2.

Drug No	Name	Description	Dosage	Method of Adln	units per day
	Start date	Finish date.			

a) Fds

Drug No → Name, Descrip, Dosage, Method.

Patient No, Drug No, Start date → Units per day, Finish date.

Patient No → Full name.

Ward No → Ward name

b) 1st NF.

<u>Patient No, Drug No, Start date,</u> Fullname, Ward No Name, Description, Dossage, Method of Admin, Units per day, Finish date

2nd NF.

<u>Patient No, Drug No, Start date,</u> Ward No, Ward name, Units per day, Finish date.

Signature _____

<u>Drug No, Name, description, Dosage, Method of Admin.</u>

<u>Patient No, Full name.</u>

Removed Partial dependency of
Patient No → Full name
Drug No → Name, description, Dosage, Method of Admin

3rd NF
Have to remove transitive dependency

               PK
<u>Patient No, Drug No, Start date, Ward No, Units per day,</u>
 FK   FK   finish date.

PK
<u>Drug No, Name, Description, Dosage, Method of Admin.</u>

PK
<u>Patient No, Full name.</u>
<u>Ward No, Ward name.</u>
PK

c)

Q.3

a) Both SSS or student no can be used as PK. Field

Snum/Ssn → Sname, Se-addr, Sc-phone, Sp-addr, Sp-phone, Bdate, Sex, class, Major-code, Prog, Minor-code

b) Both Dname or Dcode can be used for determining other attributes.

Dname/Dcode → Doffice, Dphone, Dcollege.

c) Cnum can be only used

Cnum → Cname, Cdesc, Credit, level, Cdept

d) Sec_coulse, sec_num, Semester, year → Iname

e) SSN, sec_num, sec_iname, Semester, year, ssn → Grade.

→ C·K

Student (SSN, SNum, Sname, Se_addr, Sc_phone,
Sp-addr, Sp_phone, Bdate, sex, class, Major_code,
Minor_code, Prog).
→ F·K   → F·K

→ C·K

Department (Dcode, Dname, Doffice, Dphone,
                                Dcollege).

Course (Cnum, Cname, Cdesp, Credit, level, Cdept)

Section (sec_course, sec_num, semester, year, Iname)
         FK   PK

Grade (sec_course, sec_num, semester, year, FK
        FK   FK   FK   SSN, Grade)
                                    FK