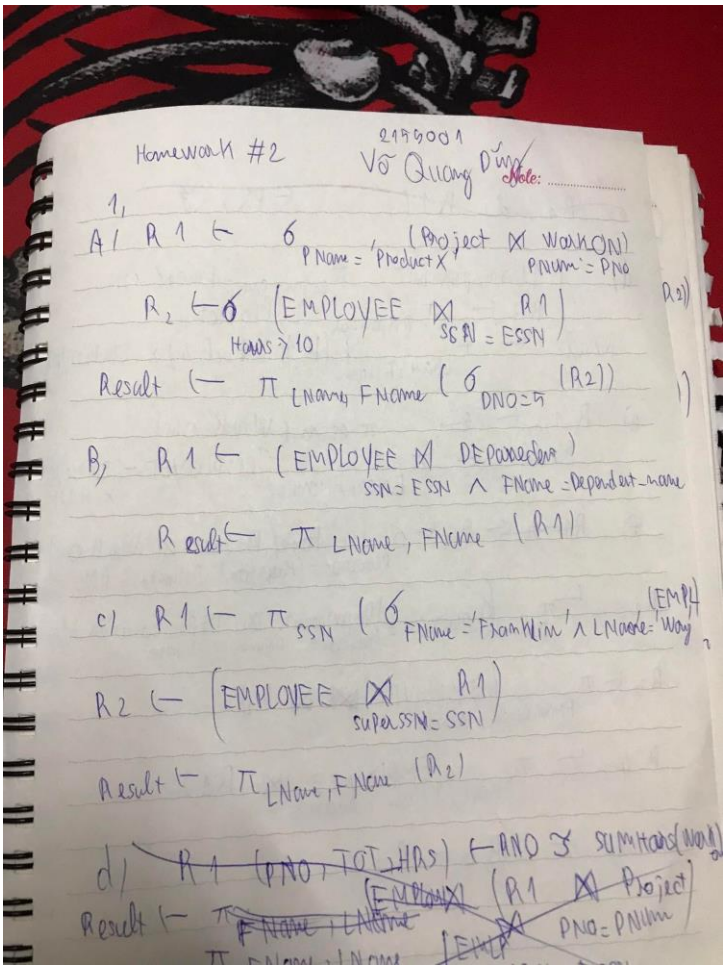
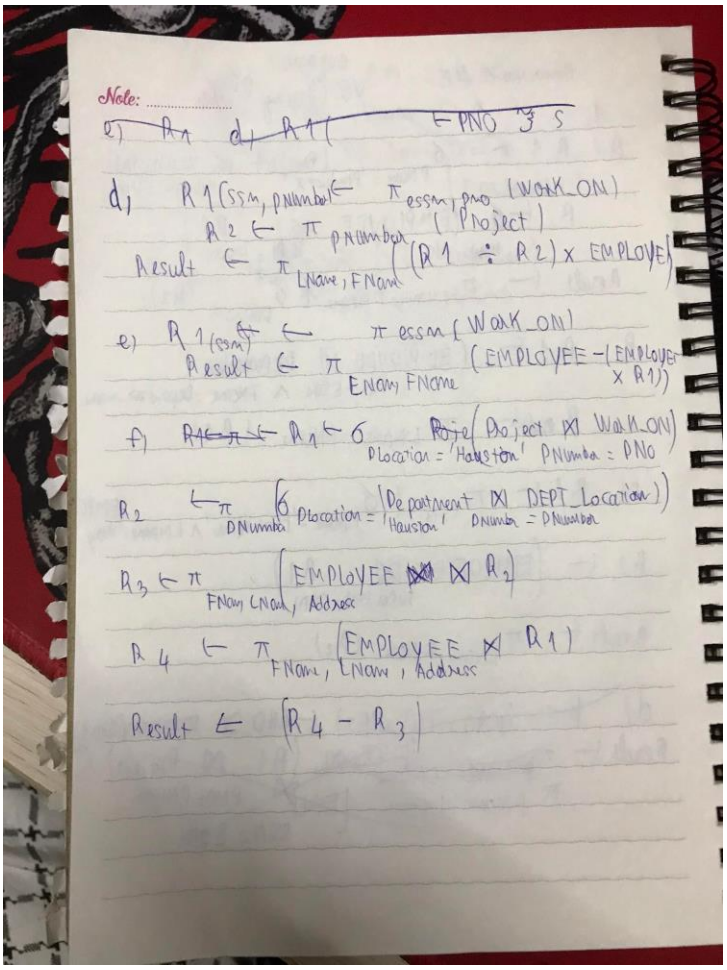
2159001

Võ QUang Dũng





Note: .....

~~e) R1 ← R1 ÷ R1(← PNO ∋ S~~

d) $R1(Ssn, pNumber \leftarrow \pi_{essn, pno}(WORK\_ON)$

$R2 \leftarrow \pi_{PNumber}(Project)$

$Result \leftarrow \pi_{LName, FName}((R1 \div R2) \times EMPLOYEE)$

e) $R1_{(essn)} \leftarrow \pi_{essn}(WORK\_ON)$

$Result \leftarrow \pi_{ENam, FName}(EMPLOYEE - (EMPLOYEE \times R1))$

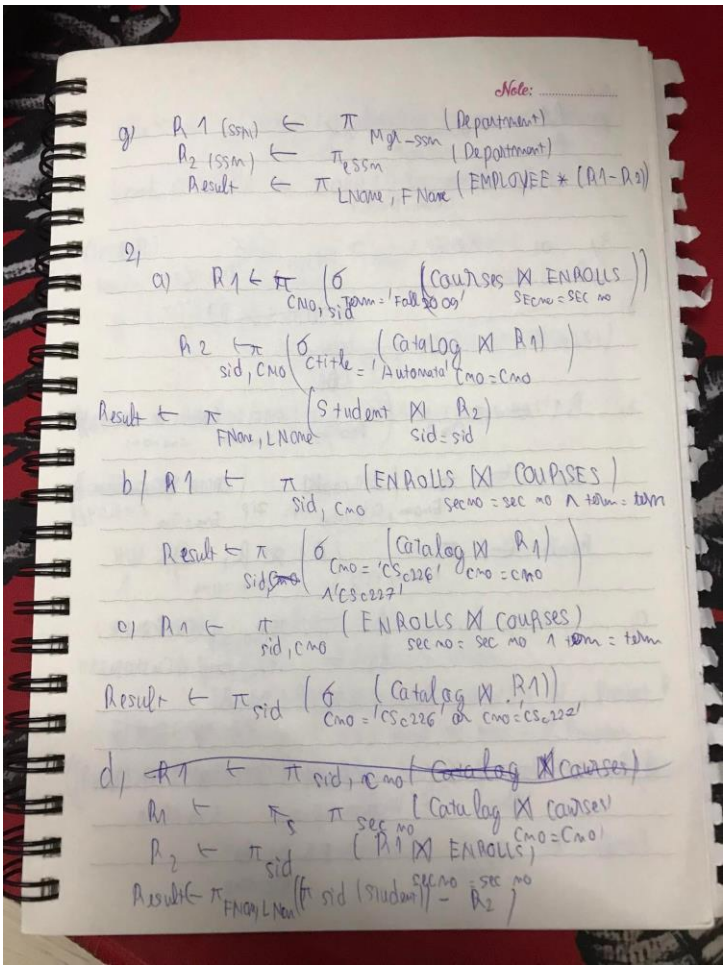
f) ~~R4 ← R1~~ $\leftarrow R_1 \leftarrow \sigma_{Plocation = 'Houston'}(Proje(Project \bowtie WORK\_ON)_{PNumber = PNo})$

$R_2 \leftarrow \pi_{DNumber}(\sigma_{Dlocation = 'Houston'}(Department \bowtie DEPT\_Location)_{DNumber = DNumber})$

$R_3 \leftarrow \pi_{FNam, LNam, Address}(EMPLOYEE \bowtie R_2)$

$R_4 \leftarrow \pi_{FName, LNam, Address}(EMPLOYEE \bowtie R_1)$

$Result \leftarrow (R_4 - R_3)$



Note: .....

g) $R_1 \leftarrow \pi_{Mgr\_ssn}(Department)$

$R_2(ssm) \leftarrow \pi_{essm}(Department)$

$Result \leftarrow \pi_{LName, FName}(EMPLOYEE * (R1 - R2))$

2)

a) $R1 \leftarrow \pi_{CNO, sid}(\sigma_{Term='Fall 2009'}(Courses \bowtie_{SECno = SEC\_no} ENROLLS))$

$R2 \leftarrow \pi_{sid, CNO}(\sigma_{Ctitle='Automata'}(Catalog \bowtie_{Cno=Cno} R1))$

$Result \leftarrow \pi_{FName, LName}(Student \bowtie_{Sid=sid} R2)$

b) $R1 \leftarrow \pi_{sid, Cno}(ENROLLS \bowtie_{secno = sec\_no \wedge term = term} COURSES)$

$Result \leftarrow \pi_{Sid}(\sigma_{Cno='CSc226' \text{ or } 'CSc227'}(Catalog \bowtie_{Cno=Cno} R1))$

c) $R1 \leftarrow \pi_{sid, Cno}(ENROLLS \bowtie_{secno = sec\_no \wedge term = term} courses)$

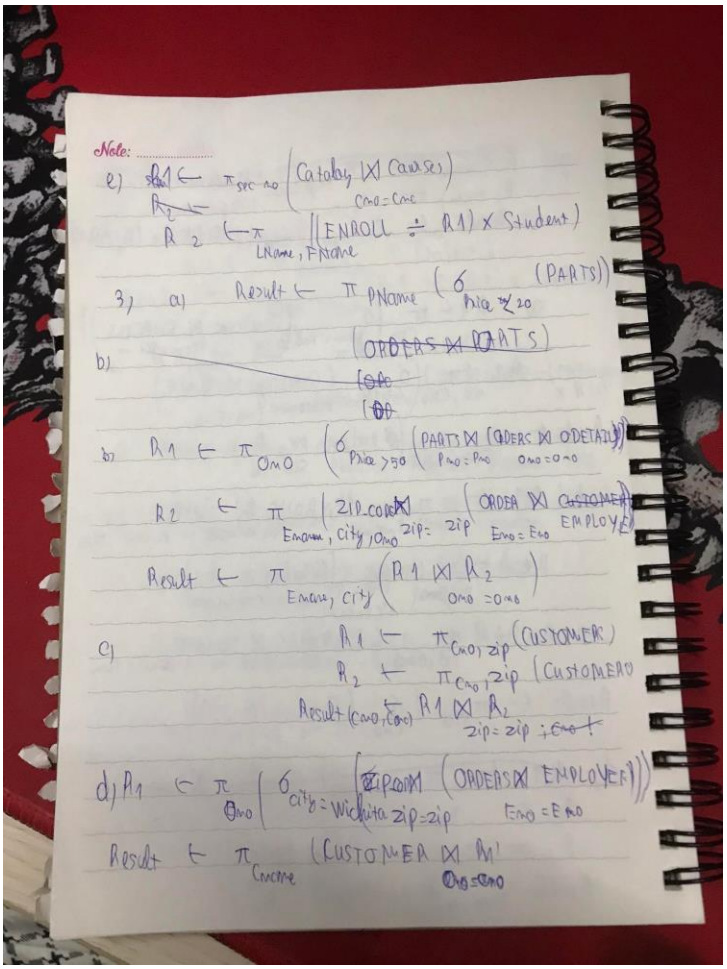
$Result \leftarrow \pi_{sid}(\sigma_{Cno='CSc226' \text{ or } Cno='CSc227'}(Catalog \bowtie R1))$

d) ~~$R1 \leftarrow \pi_{sid, cno}(Catalog \bowtie Courses)$~~

$R1 \leftarrow \pi_{S}(\pi_{sec\_no}(Catalog \bowtie courses))$

$R2 \leftarrow \pi_{sid}(R1 \bowtie_{Cno=Cno} ENROLLS)$

$Result \leftarrow \pi_{FName, LName}(\pi_{sid}(Student) - R2)$



Note: .....

e) ~~R1~~ ← π_{SSN} (Catalog ⋈ Courses)
~~R2~~ ← Cno = Cno

$R_2 \leftarrow \pi_{LName, FName}$ ((ENROLL ÷ R1) × Student)

3) a) Result ← π_{PName} ($\sigma_{Price > 20}$ (PARTS))

b) ~~(ORDERS ⋈ PARTS)~~
~~(Ono~~
~~(Ono~~

b) $R_1 \leftarrow \pi_{Ono}$ ($\sigma_{Price > 50}$ (PARTS ⋈ (ORDERS ⋈ ODETAIL))
Pno = Pno Ono = Ono

$R_2 \leftarrow \pi_{Emame, city, Ono}$ (ZIP_CODE ⋈ zip = zip (ORDER ⋈ Eno = Eno ~~CUSTOMER~~ EMPLOYEE))

Result ← $\pi_{Emame, city}$ ($R_1 \bowtie_{Ono = Ono} R_2$)

c) $R_1 \leftarrow \pi_{Cno, zip}$ (CUSTOMER)

$R_2 \leftarrow \pi_{Cno, zip}$ (CUSTOMER)

Result (Cno, Cno) ← $R_1 \bowtie_{zip = zip}$ R_2 ~~Cno ←~~

d) $R_1 \leftarrow \pi_{Ono}$ ($\sigma_{city = Wichita}$ (~~ZIP~~ ⋈ zip = zip (ORDERS ⋈ Eno = Eno EMPLOYEE))

Result ← π_{Cname} (CUSTOMER ⋈ R_1
Ono = Ono

Note: .....

e) $R_1 \leftarrow \pi_{Ono}\left(\sigma_{Price<20}\left(PARTS \bowtie_{Pno=Pno} (ORDER \bowtie_{Ono=Ono} ODETAILS)\right)\right)$

Result $\leftarrow \pi_{Cname}(CUSTOMERS \div R_1)$

f) $R_1 \leftarrow \pi_{Cno}(ORDERS)$

Result $\pi_{Cname}(CUSTOMERS \times (\pi_{Cno}(CUSTOMERS) - R_1))$

g) $R_1 \leftarrow \pi_{Cno}(\sigma_{Qty=2}(ORDER \bowtie ODETAILS))$

Result $\pi_{Cname}(R_1 \bowtie CUSTOMERS)$

~~h) [illegible]~~

HW #3

1,

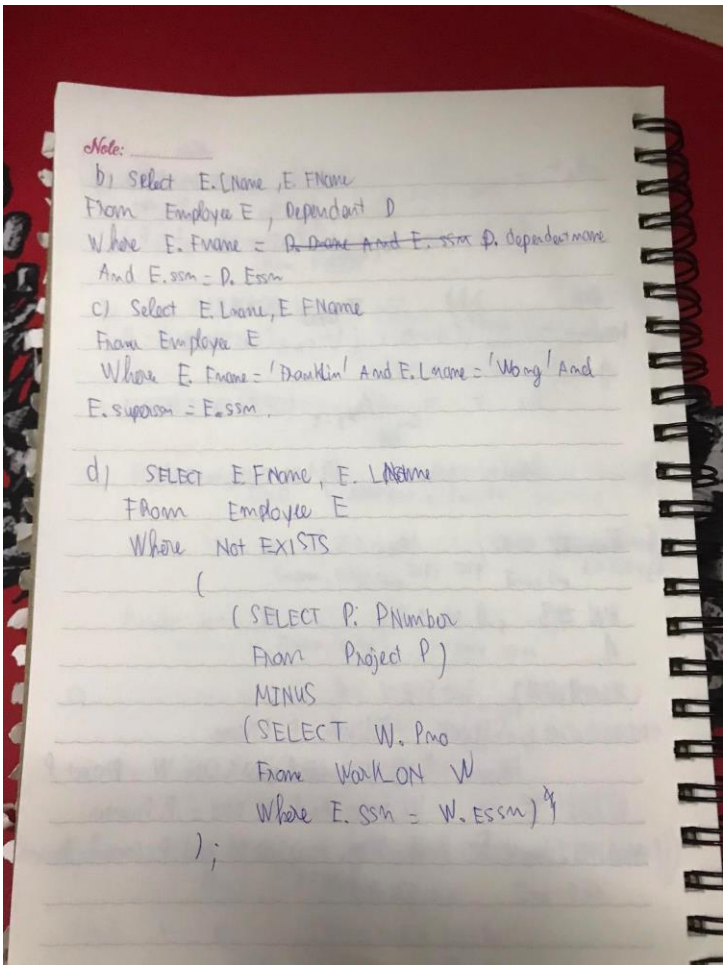
1, HW2 in SQL

a) SELECT E.LName, E.FName

From EMPLOYEE E, WORKON W, Project P

Where E.ssn = W.ESSN And W.PNO = P.PNumber

And E.dno = 5 And W.Hours > 10 And P.Pname = 'Project'



Note:

b) Select E.LName, E.FName
From Employee E, Dependant D
Where E.FName = ~~D.DName And E.ssn~~ D.dependentname
And E.ssn = D.Essn

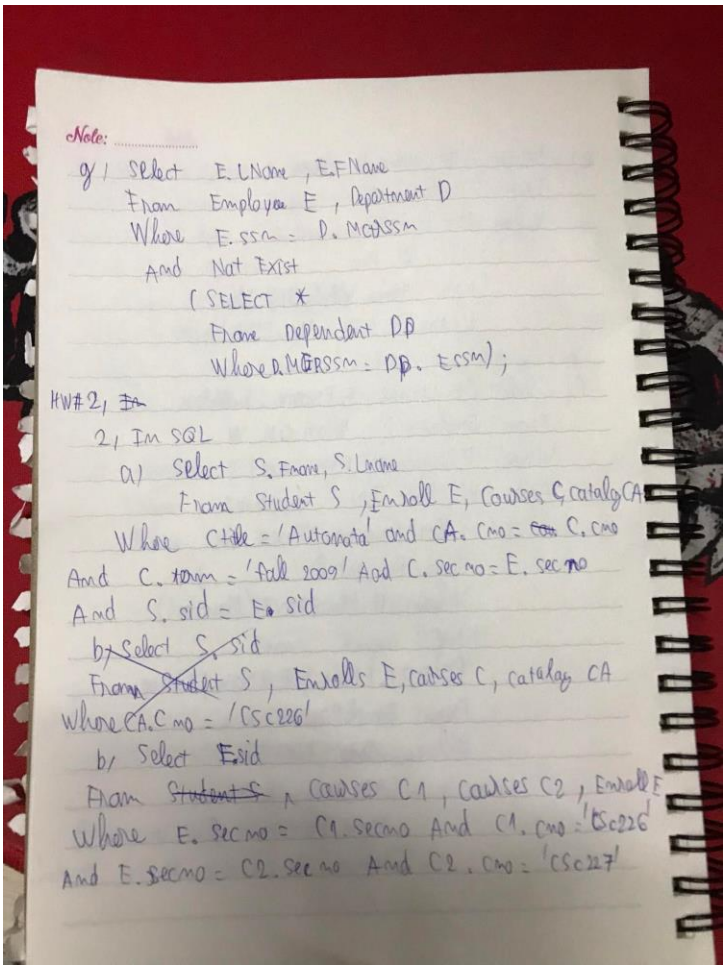
c) Select E.Lname, E.FName
From Employee E
Where E.Fname = 'Franklin' And E.Lname = 'Wong' And
E.superssn = E.ssn.

d) SELECT E.FName, E.LName
From Employee E
Where Not EXISTS
(
(SELECT P.PNumber
From Project P)
MINUS
(SELECT W.Pno
From Work_ON W
Where E.ssn = W.Essn)
);

Note:

e) SELECT E.LName, E.FName
From EmployEE E
Where Not EXISTS
(SELECT W.Pno
From ~~Asia~~ ~~Work~~_ON W
Where E.SSN = W.ESSN);

f) Select E.LName, E.FName, E.Address
From EmployEE E, Work_ON W
Where E.Ssn = W.Essn
And W.Pno IN
(Select P.PNumber
From Project P
Where P.PLocation = 'Houston')
MINUS
SELECT E.FName, E.LName E.Address
From EmployEE E
Where Dno Not IN
(SELECT D.DNumber
From ~~Department~~ Dept-Location D
Where D.DLocation = 'Houston'
)



Note: .....

q/ Select E.LName, E.FName
From Employee E, Department D
Where E.ssn = D.MGRSSN
And Not Exist
(SELECT *
From Dependent DD
Where D.MGRSSN = DD.ESSN);

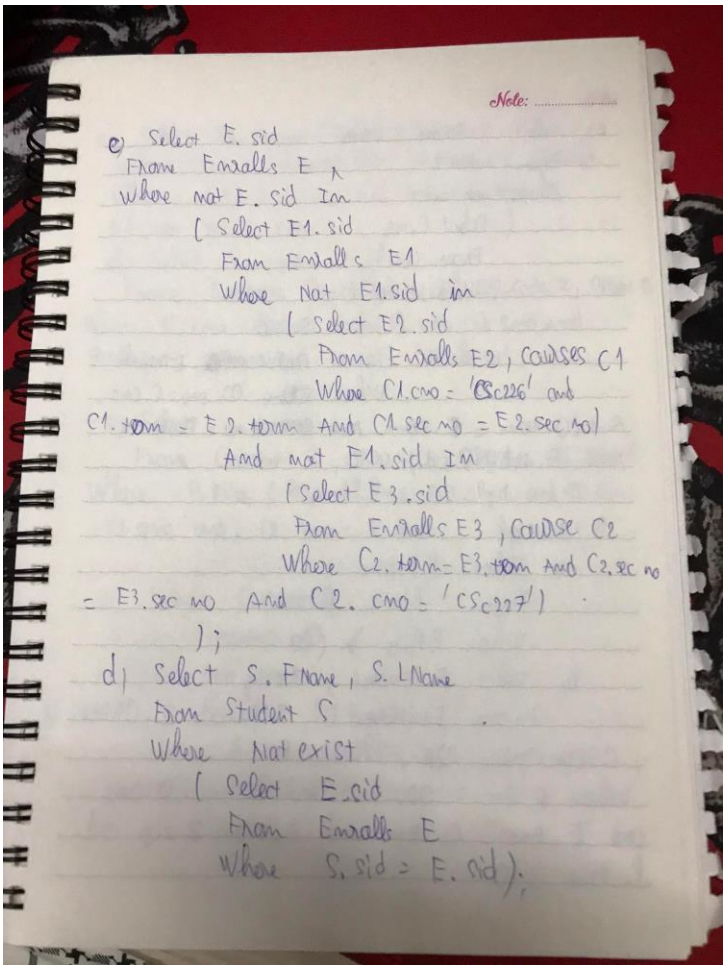
HW#2, ~~In~~

2, In SQL

a) Select S.Fname, S.Lname
From Student S, Enroll E, Courses C, catalog CA
Where Ctitle = 'Automata' and CA.Cno = ~~Cno~~ C.Cno
And C.term = 'fall 2009' And C.secno = E.secno
And S.sid = E.sid

b/ ~~Select S.sid~~
~~From Student S~~, Enrolls E, courses C, catalog CA
Where CA.Cno = 'CSc226'

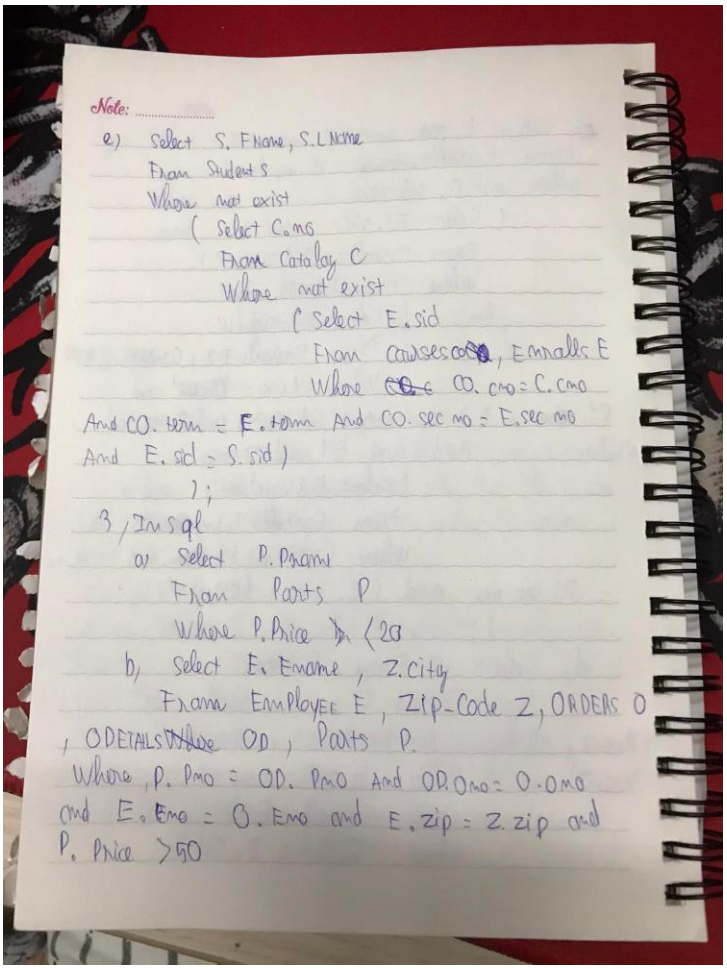
b/ Select E.sid
From ~~Student S~~, Courses C1, Courses C2, Enroll E
Where E.secno = C1.secno And C1.cno = 'CSc226'
And E.secno = C2.secno And C2.cno = 'CSc227'



Note: .....

c) Select E.sid
From Enrolls E
where not E.sid In
(Select E1.sid
From Enrolls E1
Where Not E1.sid in
(Select E2.sid
From Enrolls E2, Courses C1
Where C1.cno = 'CSc226' and
C1.term = E2.term And C1.sec no = E2.sec no)
And not E1.sid In
(Select E3.sid
From Enrolls E3, Course C2
Where C2.term = E3.term And C2.sec no
= E3.sec no And C2.cno = 'CSc227')
);

d) Select S.FName, S.LName
From Student S
Where Not exist
(Select E.sid
From Enrolls E
Where S.sid = E.sid);



Note: .....

e) Select S. FName, S.LName
From Student S
Where not exist
(Select C.cno
From Catalog C
Where not exist
(Select E.sid
From courses CO, Enrolls E
Where CO.cno = C.cno
And CO.term = E.term And CO.sec no = E.sec no
And E.sid = S.sid)
);

3/ In sql

a) Select P.Pname
From Parts P
Where P.Price < 20

b) Select E.Ename, Z.city
From Employee E, Zip-Code Z, ORDERS O
, ODETAILS OD, Parts P.
Where, P.Pno = OD.Pno And OD.Ono = O.Ono
and E.Eno = O.Eno and E.zip = Z.zip and
P.Price > 50

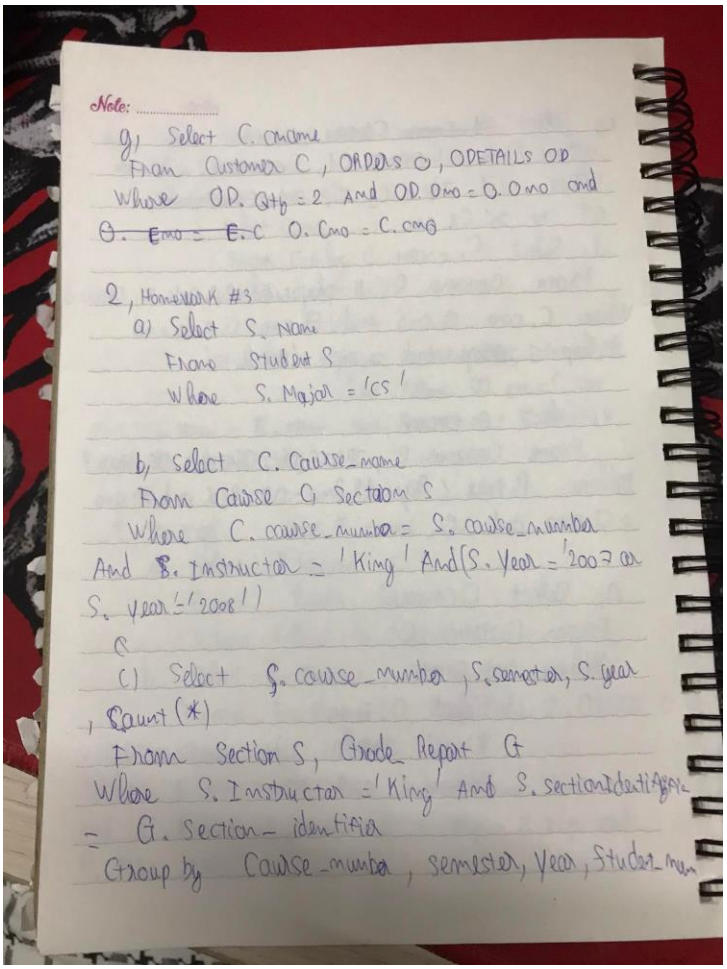
Note: .....

c) Select ~~C1.Cname~~ C1.cno , C2.cno
From Customer C1, Customer C2, ~~Zip-Code~~
Where C1.zip = C2.zip and ~~C1.zip < C2~~
C1.cno > C2.cno.

d) Select C.cname
From Customer C, Employee E, Zip-code Z, Orders O
Where C.cno = O.cno And E.eno = O.eno And
E.zip = Z.zip And Z.zip = 'Wichita'

e) Select C.cname
From Customer C, ORDERS O, ODETAILS OD, Parts P
Where P.Price < 20 and P.Pno = OD.Pno and OD.ono
= O.ono and O.eno = E.eno

f) Select C.cname
From Customer C
Where not exist
(Select O.Eno
From ORDERS O)
~~Where~~



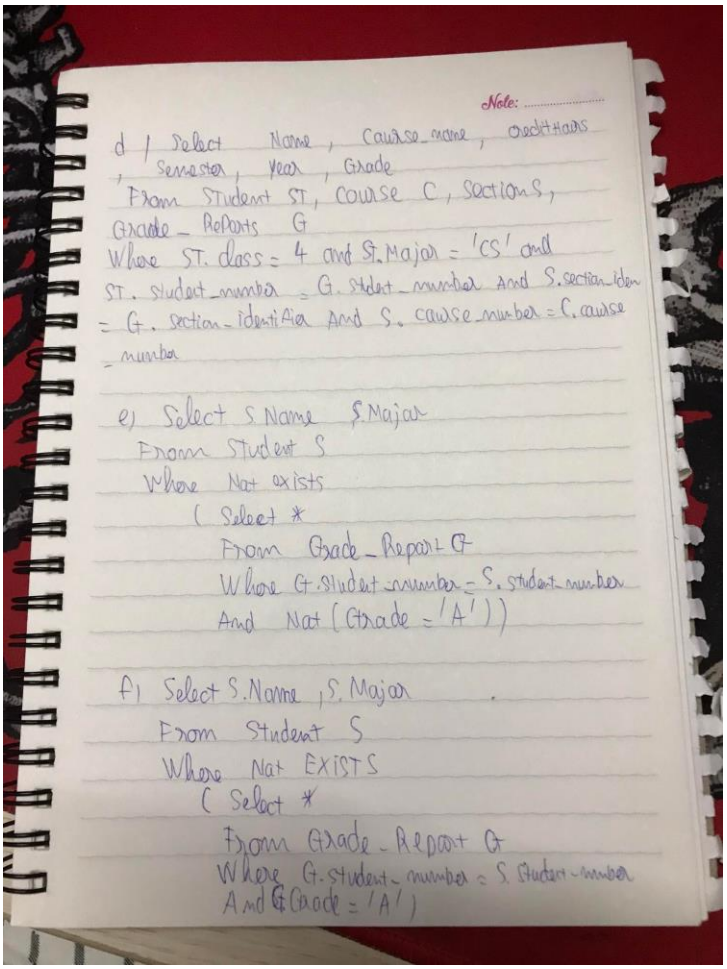
Note: .....

g) Select C.cname
From Customer C, ORDERS O, ODETAILS OD
Where OD.Qty = 2 And OD.Ono = O.Ono and
~~O.Eno = E.C~~ O.Cno = C.cno

2, Homework #3
a) Select S.Name
From Student S
Where S.Major = 'CS'

b) Select C.Course_name
From Course C, Section S
Where C.course_number = S.course_number
And S.Instructor = 'King' And (S.Year = '2007 or
S.Year = '2008')

c)
c) Select S.course_number, S.semester, S.year
, Count(*)
From Section S, Grade_Report G
Where S.Instructor = 'King' And S.sectionIdentifier
= G.Section_identifier
Group by Course_number, semester, Year, Studen_num



Note: .....

d / Select Name , Course_name , Credithours , Semester , Year , Grade
From Student ST, Course C, Section S, Grade_Reports G
Where ST. class = 4 and St. Major = 'CS' and ST. Studet_number = G. Stdet_number And S. section_iden = G. section_identifier And S. cause_number = C. cause_number

e) Select S.Name S.Major
From Student S
Where Not exists
(Select *
From Grade_Report G
Where G.Studet_number = S. student_number
And Not (Grade = 'A'))

f) Select S.Name , S. Major
From Student S
Where Not EXISTS
(Select *
From Grade_Report G
Where G. student_number = S. Studet_number
And G Grade = 'A')