

Relational Model

1. Institute(instituteID,name,addr,phone,email,web)
2. Midwife(pracID,name, email, phone,instituteID) instituteID ref Institute
3. Birthingcenter((instituteID) InstituteID ref Institute
4. CommunityClinic(instituteID) InstituteID ref Institute
5. Mother(HCardID,email,dob,name,phone,profession,bloodtype,addr)
6. Father(fatherID,name,HCardID,email,dob,phone,profession, bloodtype,addr)
7. Couple(coupleID,HCardID,fatherID) HCardID ref mother fatherID ref father
8. Technician(tecinstituteID,name,phone)
9. Pregnancy(coupleID, num, expdueym, Impdued, usounddued, estdued, interested, homebirth, ppracID, bpracID, InstituteID) coupleID ref Couple, InstituteID ref Institute,ppracID ref Midwife,bpracID refMidwife
10. Baby(babyid, gender, dob, btime, bloodtype, bname, pregnum, coupleID) (pregnum, CoupleID) ref Pregnancy
11. Tests(testid, ttype, prescdte, sampdate, labdate, results, pracID, pregnum, CoupleID, babyid, techID) pracID ref Midwife, (CoupleID, pregnum) ref Pregnancy, babyid ref Baby, techID ref Technician
12. InfoSession(infolD, sdate, stime, lang, practid) practid ref Midwife
13. Appointment(appointmentid, adate, atime, pregnum, coupleID, practid, instituteID) (pregnum,coupleID) ref Pregnancy, practid ref Midwife, instituteID ref BirthCenter
14. InfoSessionRegistration(infolD, coupleID, attended)
15. Notes(noteID,appointmentid,content,ndate,ntime) appointmentid ref Appointment

Application Interaction

A.1

```
db2 => select * from midwife where pracid = '220099';
```

PRACID	NAME	EMAIL	PHONE	INSTITUTEID

```
0 record(s) selected.
```

```
db2 =>
```

A.2

```
tzhang71@winter2022-comp421:~/comp421p3$ java simpleJDBC
[Please enter your practitioner id [E] to exit:
220099
Not valid; please re-enter
Please enter your practitioner id [E] to exit:
█
```

B.1

```
db2 => select name from mother where hcardid in(
select Hcardid from couple where coupleid in(
select coupleid from pregnancy where num >= 2))
[limit 1db2 (cont.) => db2 (cont.) => db2 (cont.) => ;
```

NAME

Victoria Gutierrez

1 record(s) selected.

db2 => █

b.2,3,4,5,6

```
[tzhang71@winter2022-comp421:~/comp421p3$ javac GoBabbyApp.java
```

```
[tzhang71@winter2022-comp421:~/comp421p3$ java simpleJDBC
```

Please enter your practitioner id [E] to exit:

[220001

login successfully

Please enter the date of appointment list [E] to exit:

[2022-03-02

1: 08:00:00 P Victoria Gutierrez 330001

2: 13:00:00 P Xi 330005

Enter the appointment number that you would like to work on.

[E] to exit [D] to go back to another date :

1

For Victoria Gutierrez 330001

1. Review notes

2. Review tests

3. Add a note

4. Prescribe a test

5. Go back to the appointments.

Enter your choice:

1

2022-03-14 14:19:39 Baby condition is excellent.

2022-03-14 14:29:58 bad

2022-03-10 11:22:09 Need to take vitamins.

2022-03-02 08:00:00 Great condition

1. Review notes

2. Review tests

3. Add a note

4. Prescribe a test

5. Go back to the appointments.

Enter your choice:

2

2022-03-14 [] Pending

2022-03-10 [ultrasound] Pending

2022-03-10 [trisomy] Pending

2022-03-09 [blood iron] Excellent blood iron level

2022-03-03 [blood iron] Decent blood iron level

b.7,10,12

```

Enter your choice:

3
Please type your observation
[Great, birth to be expected soon.
input: Great, birth to be expected soon.
DONE

1. Review notes
2. Review tests
3. Add a note
4. Prescribe a test
5. Go back to the appointments.

Enter your choice:

4
Please enter the type of test
[trisomy21
input: trisomy21
DONE

1. Review notes
2. Review tests
3. Add a note
4. Prescribe a test
5. Go back to the appointments.

Enter your choice:

5
1: 08:00:00 P Victoria Gutierrez 330001
2: 13:00:00 P Xi 330005
Enter the appointment number that you would like to work on.
[E] to exit [D] to go back to another date :

```

B.8

```

db2 => select substring(content,1,50) as content,coupleid, pregnum from notes as N right join (
select appointmentid,pregnum,appointment.coupleid from appointment where coupleid in
( select coupleid from couple where hcardid in(
select hcardid from mother where name = 'Victoria Gutierrez')))) as B
on N.appointmentid = B.appointmentid;db2 (cont.) => db2 (cont.) => db2 (cont.) => db2 (cont.) =>

```

CONTENT	COUPLEID	PREGNUM
Great condition	550001	2
Need to take vitamins.	550001	2
Baby condition is excellent.	550001	2
bad	550001	2
Great, birth to be expected soon.	550001	2

B.9

```

21 15100100 1 Xi 550005
Enter the appointment number that you would like to work on.
      [E] to exit [D] to go back to another date :
1
For Victoria Gutierrez 330001

```

1. Review notes
2. Review tests
3. Add a note
4. Prescribe a test
5. Go back to the appointments.

Enter your choice:

```

1
2022-03-14 14:19:39 Baby condition is excellent.
2022-03-14 14:29:58 bad
2022-03-14 14:42:17 Great, birth to be expected soon.
2022-03-10 11:22:09 Need to take vitamins.
2022-03-02 08:00:00 Great condition

```

B.11

```

db2 => select ttype,results,T.coupleid, pregnum from tests as T right join (
  select coupleid from couple where hcardid in(
select hcardid from mother where name = 'Victoria Gutierrez')) as B
on T.coupleid = B.coupleid db2 (cont.) => db2 (cont.) => db2 (cont.) =>
db2 (cont.) => ;

```

TTYPE	RESULTS	COUPLEID	PREGNUM
blood iron	Decent blood iron level	550001	2
blood iron	Excellent blood iron level	550001	2
ultrasound	-	550001	2
trisomy	-	550001	2
trisomy21	-	550001	2
trisomy21	-	550001	2

6 record(s) selected.

C.1

```

db2 => select ttype,results,T.coupleid, pregnum from tests as T right join (
  select coupleid from couple where hcardid in(
  select hcardid from mother where name = 'Xi')) as B
on T.coupleid = B.coupleid db2 (cont.) => db2 (cont.) => db2 (cont.) => ;

```

TTYPE	RESULTS	COUPLEID	PREGNUM
blood iron	A little low	550005	1

1 record(s) selected.

c.2,3,4

Enter your choice:

5

1: 08:00:00 P Victoria Gutierrez 330001

2: 13:00:00 P Xi 330005

Enter the appointment number that you would like to work on.
[E] to exit [D] to go back to another date :

2

For Xi 330005

1. Review notes
2. Review tests
3. Add a note
4. Prescribe a test
5. Go back to the appointments.

Enter your choice:

1

2022-03-02 09:40:00 Be careful with diets

1. Review notes
2. Review tests
3. Add a note
4. Prescribe a test
5. Go back to the appointments.

Enter your choice:

4

Please enter the type of test

[Group B streptococcus

input: Group B streptococcus

DONE

1. Review notes
2. Review tests
3. Add a note
4. Prescribe a test
5. Go back to the appointments.

C.5

```
db2 => select ttype,results,T.coupleid, pregnum from tests as T right join (
select coupleid from couple where hcardid in(
select hcardid from mother where name = 'Xi')) as B
on T.coupleid = B.coupleid db2 (cont.) => db2 (cont.) => db2 (cont.) => ;
```

TTYPE	RESULTS	COUPLEID	PREGNUM
blood iron	A little low	550005	1
Group B streptococcus	-	550005	1

2 record(s) selected.

d.1,2,3

Enter your choice:

5

1: 08:00:00 P Victoria Gutierrez 330001

2: 13:00:00 P Xi 330005

Enter the appointment number that you would like to work on.
[E] to exit [D] to go back to another date :

D

Please enter the date of appointment list [E] to exit:

2022-03-23

1: 09:00:00 P Xi 330005

2: 12:00:00 P Julie 330006

3: 14:00:00 B Monica 330008

Enter the appointment number that you would like to work on.
[E] to exit [D] to go back to another date :

Indexing

```
[db2 => CREATE UNIQUE INDEX ind1 ON Mother(phone) INCLUDE(addr);
DB20000I The SQL command completed successfully.
db2 => █
```

Data Analytics

data.csv

```
db2 => select date,count(date) from (
        select concat (concat (year (DOB), '-'), Month (DOB)) as date from baby
    )
[group by datedb2 (cont.) => db2 (cont.) => db2 (cont.) => ;
```

DATE	2
2022-1	2
2022-2	6
2022-3	6
2022-4	6
2022-5	1
2022-6	1
2022-7	2

7 record(s) selected.

```
db2 => export to data.csv of del lobs to /home/2020/tzhang71/comp421p3
select date,count(date) from (
        select concat (concat (year (DOB), '-'), Month (DOB)) as date from baby
    )
[group by datedb2 (cont.) => db2 (cont.) => db2 (cont.) => db2 (cont.) => ;
SQL3104N The Export utility is beginning to export data to file "data.csv".

SQL3105N The Export utility has finished exporting "7" rows.
```

Number of rows exported: 7

```
[db2 => quit;
DB20000I The QUIT command completed successfully.
[tzhang71@winter2022-comp421:~/comp421p3$ cat data.csv
"2022-1",2
"2022-2",6
"2022-3",6
"2022-4",6
"2022-5",1
"2022-6",1
"2022-7",2
tzhang71@winter2022-comp421:~/comp421p3$ █
```

