

## Project 2

### Relational Translation (corrected and cleaner version)

1. Mother(MomRAMQ, Name, Address, Phone, DOB, Email, Profession, Bloodtype, DueDate);
2. Father(DadRAMQ, Name, Address, Phone, DOB, Email, Profession, Bloodtype);
3. Couple(LoginID, PregnancyExp, MomRAMQ, DadRAMQ); foreign keys MomRAMQ ref. to Mother, DadRAMQ ref. to father
4. Institutions(Email, Name, Address, Phone, Website);
5. LocationOfBirth(Email);
6. Home(Email);
7. BirthingCenter(Email);
8. CommunityClinic(Email);
9. Facility(Email);
10. Midwife(PractID, Name, Email, PhoneNum, email); foreign key email ref to Institutions
11. Technician(TechID, Phonenum, TechName);
12. PregnancyResult(ResultID, BloodType, ExpectDueDate, DatingUltraDueDate, MenstrualDueDate, BabyGender, NumOfBabies, IronLevel, loginID, practID, BckUpID, Email); loginID ref to Couple, practID ref Midwife, bckUpID ref MidWife(BackUp), email ref to Institutions
13. Baby(MomRAMQ, TIMEOB, DATEOB, Gender, Name, Bloodtype); foreign key MomRAMQ ref Mother
14. Sample/Tests(SampleID, Type, DatePresc, DateTaken, DateDone, PractID, ResultID, TechID); PractID ref to Midwife, ResultID ref to PregnancyResult, TechID ref to Technician
15. OnlineInfoSession(SessionID, Language, Date, Time, PractID); foreign key PractID ref. to Midwife
16. Appointments(ApptID, aDate, aTime, PractID, MomRAMQ,); PractID ref to Midwife, MomRAMQ ref to mother
17. Notes(NoteID, DateCreated, TimeCreated, ApptID); apptID ref to Appointments
18. InforSessionAttendance(SessionID, LoginID, attended) part. Constraint on couple

### **Pending constraints + assumptions**

- Pregnancyexp in couple -> input by couple when login, not accurate duedate in mother -> input after tests, more accurate
- Ramq # assume only numerical and 4 digits for simplicity.
- Assume multiple tests can be done in a single appointment so can have result for bloodtype + baby gender
- Assume we cannot have more than 3 as numbabies in pregnancy result  
So no more than triplet
- Assume we do not need a test for menstrual due date as it is simply a calculation with mother's menstrual cycle
- Assume blood test gives us either blood type or iron level, ultra sound gives us ultraduedate and baby gender and numofbabies, and one sample can give us multiple results. E.g. one ultra to determine num of babies + due date. But mother is of course allowed to have multiple ultra sound if desired
- Assume blood test is for parents or for baby and it calculates blood iron levels as well as determine blood type
- Added appointment time and date in order to respect question constraint.
- Removed frequency as redundant and useless info.
- Added iron level attribute in pregnancy result to respect question constrain
- Q5 b) assume that we require date where tests result out (datedone) for 'lab date' and (ironlevel) for result
- Added facility entity for q5 c), all institutions excluding home
- Final agreed on due date is expectdudate , which is either ultra or menstrualdate
- Assume have not given birth = expected due date has not arrived aka in the future of (submission due date) today.

## SQL Queries

```
-- Q5 --

-- a)
SELECT ADATE, ATIME, M.MOMRAMQ, NAME, PHONE FROM APPOINTMENTS JOIN MOTHER M ON
APPOINTMENTS.MOMRAMQ = M.MOMRAMQ
WHERE ADATE >= '2022-03-21' AND ADATE <= '2022-03-25'
AND PRACTID = (SELECT PRACTID FROM MIDWIFE WHERE MIDWIFE.NAME = 'Marion Girard');

-- b)
SELECT DATEDONE , IRONLEVEL
FROM PREGNANCY_RESULT P LEFT OUTER JOIN TESTS T ON P.RESULTID = T.RESULTID
WHERE LOGINID =
    (SELECT LOGINID FROM COUPLE WHERE MOMRAMQ =
        (SELECT MOMRAMQ FROM MOTHER WHERE NAME =
            'Victoria Gutierrez'))
AND TYPE = 'Blood Test'
AND NUMBERPREGANCY = 2
;

-- c)
WITH FACILITIES (NAME,EMAIL) AS
    (SELECT NAME,EMAIL FROM INSTITUTIONS WHERE
        EMAIL IN (SELECT EMAIL FROM FACILITY))
SELECT NAME, COUNT(CASE WHEN EXPECTDUEDATE BETWEEN '2022-07-01' AND '2022-07-31' THEN
LOGINID END) AS NUM_OF_PREGNANCIES
FROM FACILITIES F LEFT JOIN PREGNANCY_RESULT P ON P.EMAIL = F.EMAIL
GROUP BY NAME;

-- d)
SELECT M.MOMRAMQ, NAME, PHONE
FROM PREGNANCY_RESULT
    FULL OUTER JOIN COUPLE C2 on PREGNANCY_RESULT.LOGINID = C2.LOGINID
    FULL OUTER JOIN MOTHER M on C2.MOMRAMQ = M.MOMRAMQ
WHERE PRACTID IN (SELECT PRACTID FROM MIDWIFE WHERE MIDWIFE.EMAIL =
    (SELECT EMAIL FROM INSTITUTIONS WHERE
        NAME = 'Lac-Saint-Louis'))
AND EXPECTDUEDATE > '2022-02-24'
;

-- e)
SELECT C2.MOMRAMQ, NAME, C2.LOGINID
FROM PREGNANCY_RESULT FULL OUTER JOIN COUPLE C2 on PREGNANCY_RESULT.LOGINID = C2.LOGINID
    FULL OUTER JOIN MOTHER M on C2.MOMRAMQ = M.MOMRAMQ
WHERE NUMOFBABIES >= 2
;
```

a)

```
db2 => SELECT ADATE, ATIME, M.MOMRAMQ, NAME, PHONE FROM APPOINTMENTS JOIN MOTHER M ON APPOINTMENTS.MOMRAMQ = M.MOMRAMQ
WHERE ADATE >= '2022-03-21' AND ADATE <= '2022-03-25'
AND PRACTID = (SELECT PRACTID FROM MIDWIFE WHERE MIDWIFE.NAME = 'Marion Girard');db2 (cont.) => db2 (cont.) => ;
```

ADATE	ATIME	MOMRAMQ	NAME	PHONE
03/24/2022	09:00:00	1001	Jane Chen	5140001111
03/21/2022	10:30:00	1001	Jane Chen	5140001111

2 record(s) selected.

b)

```
db2 => SELECT DATEDONE , IRONLEVEL
FROM PREGNadb2 (cont.) => NCY_RESULT P LEFT OUTER JOIN TESTS T ON P.RESULTID = T.RESULTID
WHERE LOGINIdb2 (cont.) => D =
    (SELECT LOGINID FROM COUPLE WHEREdb2 (cont.) => E MOMRAMQ =
        (SELEcd2 (cont.) => T MOMRAMQ FROM MOTHER WHERE NAME = 'Victoria Gutierrez'))
AND TYPE = 'Blood Test'
AND NUMBERPREGANCY = db2 (cont.) => 2db2 (cont.) => ;
```

DATEDONE	IRONLEVEL
10/16/2022	MEDIUM

1 record(s) selected.

c)

```
db2 => WITH FACILITIES (NAME,EMAIL) AS
    (SELECT NAME,EMAIL FROMdb2 (cont.) => M INSTITUTIONS WHERE
        EMAIL IN (SELECT EMAIL FROM FACILITY))
SELECT Nadb2 (cont.) => db2 (cont.) => ME, COUNT(CASE WHEN EXPECTEDUEDATE BETWEEN '2022-07-01' AND '2022-07-31' THEN LOGINID END) AS NUM_OF_PREGNANCIES
FROM FACILITIES F LEFT JOINdb2 (cont.) => IN PREGNANCY_RESULT P ON P.EMAIL = F.EMAIL
GROUP Bdb2 (cont.) => Y NAME;
```

NAME	NUM_OF_PREGNANCIES
Centerable	0
Clinic Garnet	0
Daniel Clinic	0
General Hospital	0
Havana Center	2
Jewish Hospital	0
Lac-Saint-Louis	0

d)

```

db2 => SELECT M.MOMRAMQ, NAME, PHONE
FROM PREGNANCY_RESdb2 (cont.) => ULT
      FULL OUTER JOIN COUPLE C2 on PREGNadb2 (cont.) => NCY_RESULT.LOGINID = C2.LOGINID
      FUdb2 (cont.) => LL OUTER JOIN MOTHER M on C2.MOMRAMQ = M.MOMRAMQ
WHERE PRACTID IN (SELECT PRACTIDdb2 (cont.) => FROM MIDWIFE WHERE MIDWIFE.EMAIL =
                  db2 (cont.) =>                                (SELECT EMAIL FROM INSTITUTIONS WHERE
                                                                    db2 (cont.) =>                                NAME = 'Lac-Saint-Louis'))
AND EXPECTDUEDATE > '2022-02-24'db2 (cont.) => ;

```

MOMRAMQ	NAME	PHONE
1005	April McCormick	128489393
1006	Ivie Guzman	7600034250

2 record(s) selected.

e)

```

db2 => SELECT C2.MOMRAMQ, NAME, C2.LOGINID
Fdb2 (cont.) => ROM PREGNANCY_RESULT FULL OUTER JOIN COUPLE C2 on PREGNANCY_RESULT.LOGINID = C2.LOGINID
      db2 (cont.) =>      FULL OUTER JOIN MOTHER M on C2.MOMRAMQ = M.MOMRAMQ
WHERE NUdb2 (cont.) => MOFBABIES >= 2;

```

MOMRAMQ	NAME	LOGINID
1001	Jane Chen	1101
1003	Stella Payne	1103
1004	Rebeca Pineda	1104
1005	April McCormick	1105

4 record(s) selected.

## Midwife Information

a)

```
CREATE VIEW midwifeinfo
AS
    SELECT PRACTID, M.NAME AS MIDWIFE_NAME, PHONENUM, MEMAIL AS M_EMAIL, I.NAME AS
INST_NAME, ADDRESS
FROM MIDWIFE M LEFT JOIN INSTITUTIONS I on M.EMAIL = I.EMAIL
WHERE I.EMAIL IN (SELECT EMAIL FROM FACILITY)
;
```

b)

```
db2 => CREATE VIEW midwifeinfo
AS
    SELECT PRACTID, db2 (cont.) => db2 (cont.) => M.NAME AS MIDWIFE_NAME, PHONENUM, MEMAIL AS M_EMAIL, I.NAME AS INST_NAME, ADDRESS
FROM MIDWIFE M LEFT JOIN INSTdb2 (cont.) => ITUTIONS I on M.EMAIL = I.EMAIL
WHERE I.EMadb2 (cont.) => IL IN (SELECT EMAIL FROM FACILITY)
db2 (cont.) => ;
DB20000I The SQL command completed successfully.
db2 =>
```

c)

```
db2 => SELECT * FROM midwifeinfo
LIMIT(5)db2 (cont.) => ;
```

PRACTID	MIDWIFE_NAME	PHONENUM	M_EMAIL	INST_NAME	ADDRESS
2001	Marion Girard	7371924230	m.girard@gmail.com	Jewish Hospital	1675 Short Street
2002	Harlow Frost	2742029979	HarlowFrost@gmail.com	General Hospital	3006 Hillcrest Lane
2003	Rebeca Thornton	1084514837	RebecaThornton@gmail.com	Centerable	2135 Rosewood Court
2004	Sherry Iles	2479575577	SherryIles@gmail.com	Havana Center	3903 Rogers Street
2005	Gwen Hood	5908639191	GwenHood@gmail.com	Jewish Hospital	1675 Short Street

5 record(s) selected.

d)

```
db2 => SELECT * FROM midwifeinfo
WHERE db2 (cont.) => INST_NAME = 'Lac-Saint-Louis'
LIMIT(5)db2 (cont.) => ;
```

PRACTID	MIDWIFE_NAME	PHONENUM	M_EMAIL	INST_NAME	ADDRESS
2006	Keri Hayward	9991619958	KeriHayward@gmail.com	Lac-Saint-Louis	111 LSL Street

1 record(s) selected.

e)

```
db2 => INSERT INTO midwifeinfo (PRACTID, MIDWIFE_NAME, PHONENUM, M_EMAIL, INST_NAME, ADDRESS)
VALUES
(2007, 'Alice Kim', 10101010, 'a.kidb2 (cont.) => db2 (cont.) => m@gmail.com', 'General Hospital', '3006 Hillcrest Lane');
DB21034E The command was processed as an SQL statement because it was not a
valid Command Line Processor command. During SQL processing it returned:
SQL0150N The target fullselect, view, typed table, materialized query table,
range-clustered table, or staging table in the INSERT, DELETE, UPDATE, MERGE,
or TRUNCATE statement is a target for which the requested operation is not
permitted. SQLSTATE=42807
db2 =>
```

7)

```
db2 => CREATE TABLE TESTS
(
  SampleID BIGINT NOTdb2 (cont.) => db2 (cont.) => NULL,
  Type VARCHAR(50),
  Pdb2 (cont.) => db2 (cont.) => db2 (cont.) => ractID BIGINT,
  ResultID BIGINT,
  TechID BIGINT,db2 (cont.) => db2 (cont.) =>
  PRIMARY KEY (SampleID),
  CHECK ( DateDone >= Ddb2 (cont.) => atePresc )
)db2 (cont.) => ;
DB20000I The SQL command completed successfully.
```

```
db2 => INSERT INTO TESTS (SAMPLEID, TYPE, DATEPRESC, DATETAKEN, DATEDONE, PRACTID, RESULTID, TECHID)
db2 (cont.) => VALUES
db2 (cont.) => ('5001', 'Blood Test', '2022-03-10', '2022-03-15', '2021-03-16', 2001, 4001, 3001);
DB21034E The command was processed as an SQL statement because it was not a
valid Command Line Processor command. During SQL processing it returned:
SQL0545N The requested operation is not allowed because a row does not
satisfy the check constraint "FWEI2.TESTS.SQL220224002908620". SQLSTATE=23513
```