

NAME: Valérien Raphaël FOUREL

RELATIONAL TRANSLATION

A. Entity

1. Father(email, date of birth, name, phone number, Quebec healthcare card ID, address, current profession, Blood Type)
2. Technician(ID, name, phone number)
3. Mother(Quebec healthcare card ID, email, current profession, date of birth, name, address, phone number, Blood Type)
4. Couple(phone number of father, email of father, RAMQ of mother, email) references Father, Mother
5. Midwife(practioner ID, name, email, phone number)
6. Pregnancy(Pregnancy ID, 1st Expected due date, numofBabies)
7. Online Session(Midwife ID, date, hour, Language) references Midwife
8. Birth Operation(Pregnancy ID, Location Birth, Operation Midwife, Chosen expected date) references Pregnancy
9. Appointment(Date, Time, Pregnant ID, midwifeID) references Pregnancy, midwifeID references Midwife
10. General Appointment(Date, Time, Pregnanct ID,) Date, Time, PregnancyID references Appointment
11. Test(Date, Time, Pregnant ID, Test name, date of prescription, date of test, date of lab work) Date, Time, PregnancyID references Appointment
12. Sampling Test(Date, Time, Pregnant ID, Test name, date of prescription, Sample name) Date, Time, Pregnant ID, Test name, date of prescription, references Test
13. Expected Date Meeting(Date, Time, Pregnant ID, Test name, date prescription, Method, Expected Due Date) Date, Time, Pregnant ID, Test name, date of prescription, references Test

14. Birth Time/Place Setting up(Date, Time,Pregnant ID, Address1, Address2, Address3)
Date, Time, PregnancyID references Appointment
15. Notes(Date, Time,Pregnant ID,timestamp,Content) references Appointment
16. Health Care institution(name, phone number, email,type of institution, address, website)
17. Babies(Pregnancy ID, Baby Number, Sex, Name, Time of Birth, Date of Birth, Blood Type) references Pregnancy

B. Relationship

1. Paired with(Quebec Healthcare Card ID, phone number, name, email) Quebec Healthcare Card references Mother, phone number, name, email references Healthcare Facility
2. Registered for (Midwife ID, Date, Hour, RAMQ of mother,email of the father, Has attended)MidwifeID, date, Hour references Online Session, RAMQ of mother, email of the father references Couple
3. selects (Midwife ID, Date, Hour, RAMQ of mother,email of the father, was interested, was selected) MidwifeID, date, Hour references Online Session, RAMQ of mother, email of the father references Couple
4. Conceive(RAMQ of mother, email of father, pregnancyID, Couples number of pregnancies) RAMQ of mother, email of the father references Couple, PregnancyID references Pregnancy,
5. Works at(practioner ID, email, phone, name), practioner ID references Midwife, email, phone, name references Healthcare Facility
6. Assigned at(Pregnancy ID,1st practioner ID,, 2nd Midwife ID) PregnancyID references Pregnancy, 1st practioner ID references Midwife
7. Lab work done by(, Date, Time, Pregnancy ID,Test Name, Date Prescription, Technician ID, result of the test) Date, Time,Pregnant ID,Test name, date of prescription, references Test, Technician ID references Technician

We define here the relevant information partaken in navigating the ER diagram for Project 1. We will first describe the requirements, restrictions, and finally, the caveats.

Requirements and Restrictions:

A father of couple can be engaged in multiple pregnancies at the same time, but a mother can only have one active pregnancy at a time.

A midwife can only be affiliated at one Healthcare facility at a time.

Dates of appointments and tests must be of later date compared to the Online Session at which the couple is selected, and before the birth date related to the baby.

The Online Session associated with a pregnant Couple must be before the birth date.

A mother carries the baby; therefore, the pairing with the local healthcare facility is contingent on her address. To keep track of her history, “paired with” is a 1-to-many relationship.

An issue was to determine how to build the entity set “Baby,” as I have considered building it as the result of pieces of information from the tests.

However, the baby is built has a weak entity depending on the pregnancy, as it made more sense to identify the baby as related to the pregnancy, with information flowing from tests being conducted, the same way the blood type of the parents is an attribute of the Father and Mother even if a test can obtain the information.

Because a couple is formed by a mother and a father, it is difficult to build a weak entity set for it. However, the entity set Couple holds information on both parties of the Couple that are already held by the system; I have opted to store together only a certain amount of information in order to identify the Couple if it means redundancy could not be avoided, that is the Mother’s Quebec

HealthCare Card ID number, the father's name and phone number, as well as email, that is held as a contact point since it is an online information session. Furthermore, redundancies on the expected due date may occur.

In the relationship "Assigned at," a first midwife is assigned to pregnancy; the relationship is then redefined at a later date to accommodate the choice of the second midwife.

Even if several babies can come from the same pregnancy, each baby's time and date of birth is recorded separately, as twins can be born 10 minutes apart between 11:55 pm and 12:05 am on two separate days.

Appointments are divided into general appointments that are to keep in touch between the midwife and the pregnant mother, Birth Time/Place Setting up, which can keep track of multiple choices of locations, and Tests. Tests are divided by sampling tests and Expected Date Meeting (such as the ultrasounds method and discussing) to give a better timeline on the birth.

Discussing with the mother of the last expected menstrual period is therefore considered a test even though no lab work is done, which is why tests are not bound to have lab work done.

Assumption #1: The local facility is determined by the address of the mother as most of the services are to be provided for the mother's health, and the father accompanies her.

Assumption #2: Information pertaining to the details on each baby can only be determined through tests type of appointments. However, each baby is related to the pregnancy as a weak entity.

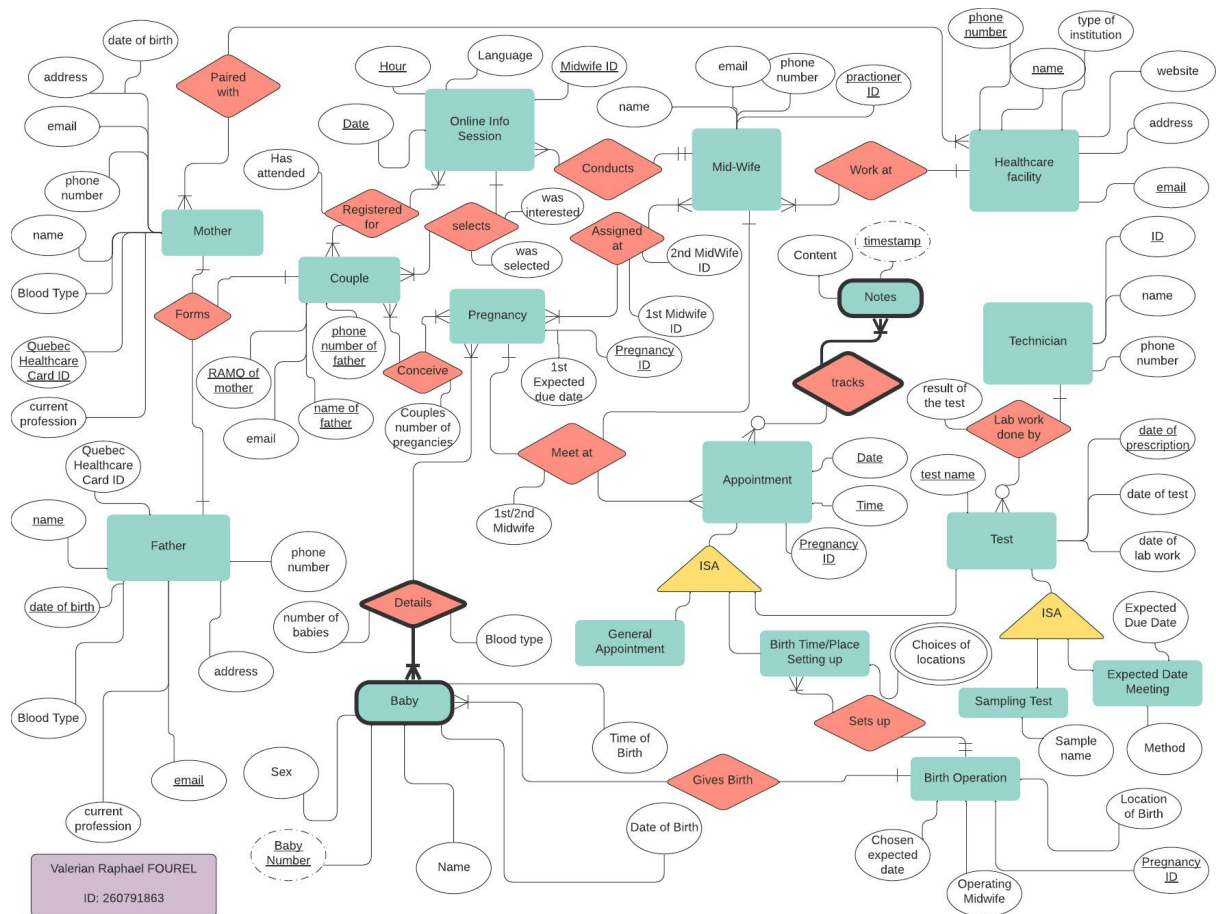
Assumption #3: Because the blood type depends on the blood types of the father and the mother, all babies of the same Couple of parents must have the same blood type.

Assumption #4: Only one midwife meets one (or both) of the parents at a time.

Caveat #1: Each pregnancy receives a unique ID so that they can be matched to the services throughout the process. During the appointments, in the notes, and for the babies, it is used as a foreign key for a composite primary key; however, in the birth operation, it is used as a primary key alone, even though it is a foreign key because it is assumed that for each pregnancy there can be only one birth operation where the single or multiple babies are pushed out of the mother's womb.

Caveat #2: Notes are built as a weak entity set, as they all relate to a particular appointment between a visiting pregnant mother and/or the father with a midwife. The timestamp is used as a partial key.

Caveat #3: the entity sets Couple and Pregnancy, are similar as it is the Couple that meets the midwife, but because couples can have multiple pregnancies, it is better to separate both as the handling of the pregnancies can be done by different midwives and institutions.



PART 3

CAVEAT #2: Some screenshots needed to be redone on another computer due to logistical complications.

a)

1.

```
db2 => SELECT * FROM midwife WHERE practionerid=20000;
```

```
PRACITIONERID MIPHONENUMBER MIEMAIL
```

```
MINAME
```

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

2.

```
"C:\Program Files\Java\jdk-17.0.2\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2021.3.1\
Please enter your practioner id [E] to exit:

34211
ERROR: INVALID PRACTIONER ID
Please enter your practioner id [E] to exit:

34211
Date Format: YYYY-MM-DD
```

We build an ArrayList containing the technicians' IDs, which is then randomly selected for the lab work.

b)

1.

```
SQLSTATE=42703
db2 => SELECT c.motherramq , COUNT (c.pregnancyid) AS pregnancycount FROM mother m , conceive c WHERE m.mramqid=c.motherramq GROUP BY c.motherramq HAVING COUNT(c.pregnancyi
d) >=2

MOTERRAMQ    PREGNANCYCOUNT
-----
QWED21002393      2
VICT30002000      3

  2 record(s) selected.

db2 =>
```

2.

```
Please enter your practioner id [E] to exit:

34211
Date Format: YYYY-MM-DD
Please enter the date for appointment list [E] to exit:
```

3.

```
"C:\Program Files\Java\jdk-17.0.2\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2021.3.1\
Please enter your practioner id [E] to exit:

34211
Date Format: YYYY-MM-DD
Please enter the date for appointment list [E] to exit:

2022-04-02
1: 2022-04-02 12:00:00 P Carrie Fisher SING80004444
2: 2022-04-02 15:00:00 P Jamila Beral MOM0234333
Enter the appointment number that you would like to work on.
[E] to exit [D] to go back to another date:

|
```

4.

```
1: 2022-04-02 12:00:00 P Carrie Fisher SING80004444
2: 2022-04-02 15:00:00 P Jamila Beral MOM0234333
Enter the appointment number that you would like to work on.
      [E] to exit [D] to go back to another date:

1
2022-04-02 12:00:00 P Carrie Fisher SING80004444
  1. Review notes
  2. Review tests
  3. Add a note
  4. Prescribe a test
  5. Go back to the appointments

Enter your choice:
```

5.

```
2022-04-02 12:00:00 P Carrie Fisher SING80004444
  1. Review notes
  2. Review tests
  3. Add a note
  4. Prescribe a test
  5. Go back to the appointments

Enter your choice:

1
2022-02-01 14:56:55.0 Father on music tour, mother needs tests
2022-02-16 11:50:32.0 father needs testing
2022-02-28 09:40:30.0 father dr check, blood drawn
2022-03-09 11:02:02.0 mother needs a sampling
2022-03-10 15:49:50.0 Expected date setting
2022-03-19 11:33:33.0 mother needs hormone checked
2022-04-02 13:01:01.0 Mother and father excited for birth
2022-05-15 14:30:21.0 Dr test for liver
2022-05-20 12:54:30.0 birth is setted
2022-06-20 10:02:02.0 Birth is setted
2022-04-02 12:00:00 P Carrie Fisher SING80004444
  1. Review notes
```


6.

```
2022-04-02 12:00:00 P Carrie Fisher SING80004444
1. Review notes
2. Review tests
3. Add a note
4. Prescribe a test
5. Go back to the appointments

Enter your choice:
2
2022-02-28 [Dr test] low vitamins
2022-03-09 [Hormone sample] High estrogen
2022-03-19 [blood iron] Blood type confirmed for both parents
2022-05-15 [Dr test] Optimal levels of vitamins
2022-03-10 [Expected date] baby is 7months old
2022-04-02 12:00:00 P Carrie Fisher SING80004444
1. Review notes
2. Review tests
3. Add a note
4. Prescribe a test
5. Go back to the appointments

Enter your choice:
|
```

7.

```
Enter your choice:
3
Please type your observation:
Father considers a home birth
2022-04-02
Sat Apr 02 00:00:00 EDT 2022
INSERT INTO notes VALUES ('2022-04-02' , '12:00:00' , 300201 , '2022-04-02 17:58:54.0', 'Father considers a home birth' )
2022-04-02 12:00:00 P Carrie Fisher SING80004444
1. Review notes
2. Review tests
3. Add a note
4. Prescribe a test
5. Go back to the appointments

Enter your choice:
|
```

8.

Discussion: We have selected the full mother information, the information relevant to the couple, (and only the primary key for the father table). As well, as all of the notes relevant to any pregnancy of the Mother M1 “Carrie Fisher”.

```
SELECT m.mramqid , m.memail , m.mname , m.mdob , m.mphonenumber , m.maddress ,
m.mbloodtype , m.mprofession , c.pregnancyid , c.femail , c.numpregnancy , n.nadate ,
n.nahour , LEFT(n.ncontent,50) , n.ntimestamp FROM mother m INNER JOIN conceive c
ON c.motherramq=m.mramqid INNER JOIN notes n ON n.npregnancyid=c.pregnancyid
WHERE m.mramqid='SING80004444'
```

```
(db2 => SELECT m.mramqid , m.memail , m.mname , m.mdob , m.mphonenumber , m.maddress , m.mbloodtype , m.mprofession , c.pregnancyid , c.femail , c.numpregnancy , n.nadate , n.nahour , LEFT
(n.ncontent,50) , n.ntimestamp FROM mother m INNER JOIN conceive c ON c.motherramq=m.mramqid INNER JOIN notes n ON n.npregnancyid=c.pregnancyid WHERE m.mramqid='SING80004444')
```

MRAMQID	MEMAIL	NADATE	NAHOUR	14	MNAME	MDOB	MPHONENUMBER	MADDRESS	MBLOODTYPE	MPROFESSION	MPREGNANCYID	FEMAIL
NTIMESTAMP												
SING80004444	carrief@gmail.com	2 02/01/2022	14:00:00		Father on music tour, mother needs tests	12/05/1980	5149003222	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com
SING80004444	carrief@gmail.com	2 02/16/2022	11:00:00		father needs testing	12/05/1980	5149003222	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com
SING80004444	carrief@gmail.com	2 02/28/2022	09:00:00		father dr check, blood drawn	12/05/1980	5149003222	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com
SING80004444	carrief@gmail.com	2 03/09/2022	10:00:00		mother needs a sampling	12/05/1980	5149003222	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com
SING80004444	carrief@gmail.com	2 03/19/2022	11:00:00		mother needs hormone checked	12/05/1980	5149003222	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com
SING80004444	carrief@gmail.com	2 05/20/2022	12:00:00		birth is settled	12/05/1980	5149003222	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com
SING80004444	carrief@gmail.com	2 04/02/2022	12:00:00		Mother and father excited for birth	12/05/1980	5149003222	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com
SING80004444	carrief@gmail.com	2 05/15/2022	14:00:00		Dr test for liver	12/05/1980	5149003222	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com
SING80004444	carrief@gmail.com	2 03/10/2022	15:00:00		Expected date setting	12/05/1980	5149003222	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com
SING80004444	carrief@gmail.com	2 06/20/2022	09:00:00		Birth is settled	12/05/1980	5149003222	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com
SING80004444	carrief@gmail.com	2 04/02/2022	12:00:00		Father considers a home birth	12/05/1980	5149003222	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com

11 record(s) selected.

9.

```
Enter your choice:
1
2022-02-01 14:56:55.0 Father on music tour, mother needs tests
2022-02-16 11:50:32.0 father needs testing
2022-02-28 09:40:30.0 father dr check, blood drawn
2022-03-09 11:02:02.0 mother needs a sampling
2022-03-10 15:49:50.0 Expected date setting
2022-03-19 11:33:33.0 mother needs hormone checked
2022-04-02 13:01:01.0 Mother and father excited for birth
2022-04-02 17:58:54.0 Father considers a home birth
2022-05-15 14:30:21.0 Dr test for liver
2022-05-20 12:54:30.0 birth is setted
2022-06-20 10:02:02.0 Birth is setted
2022-04-02 12:00:00 P Carrie Fisher SING80004444
1. Review notes
2. Review tests
3. Add a note
4. Prescribe a test
5. Go back to the appointments

Enter your choice:
|
```

10.

```
Enter your choice:
4
Please enter the type of test:
trisomy 21
INSERT INTO testapp VALUES ('2022-04-02' , '12:00:00' , 300201 , 'trisomy 21', '2022-04-02', '2022-04-02' , null )
INSERT INTO labwork VALUES ('2022-04-02' , '12:00:00' , 300201 , 'trisomy 21', '2022-04-02', '1012' , null )
INSERT INTO samplingtestapp VALUES ('2022-04-02' , '12:00:00' , 300201 , 'trisomy 21', '2022-04-02', 'Blood' )
2022-04-02 12:00:00 P Carrie Fisher SING80004444
1. Review notes
2. Review tests
3. Add a note
4. Prescribe a test
5. Go back to the appointments

Enter your choice:
|
```

11.

Note: Many tests were created in for this mother during the Project 2.

```
SELECT m.mramqid , m.memail , m.mname , m.mdob , m.mphonenumber , m.maddress ,
m.mbloodtype , m.mprofession , c.pregnancyid , c.femail , c.numpregnancy , lb.tadate ,
lb.tahour , lb.taname , lb.tadateprescription , LEFT(lb.result ,50), lb.techid , tp.tadatelabwork
```

FROM mother m INNER JOIN conceive c ON m.mramqid=c.motherramq INNER JOIN labwork lb ON lb.tapregnancyid=c.pregnancyid INNER JOIN testapp tp ON lb.tapregnancyid=tp.tapregnancyid WHERE m.mramqid='SING80004444' AND lb.tadate=tp.tadate AND lb.tahour=tp.tahour

```
db2 => SELECT m.mramqid , m.memail , m.mname , m.mdob , m.mphonenumber , m.maddress , m.mbloodtype , m.mprofession , c.pregnancyid , c.femail , c.numpregnancy , lb.tadate , lb.tahour , lb.taname , lb.tadateprescription , LEFT(lb.result,50), lb.techid , tp.tadatelabwork FROM mother m INNER JOIN conceive c ON m.mramqid=c.motherramq INNER JOIN labwork lb ON lb.tapregnancyid=c.pregnancyid INNER JOIN testapp tp ON lb.tapregnancyid=tp.tapregnancyid WHERE m.mramqid='SING80004444' AND lb.tadate=tp.tadate AND lb.tahour=tp.tahour
```

MNAME	MDOB	MADDRESS	MTECHID	MPROFESSION	PREGNANCYID	FEMAIL	NUMPREGNA
Carrie Fisher	12/05/1980	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com	
Carrie Fisher	12/05/1980	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com	
Carrie Fisher	12/05/1980	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com	
Carrie Fisher	12/05/1980	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com	
Carrie Fisher	12/05/1980	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com	
Carrie Fisher	12/05/1980	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com	
Carrie Fisher	12/05/1980	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com	
Carrie Fisher	12/05/1980	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com	
Carrie Fisher	12/05/1980	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com	
Carrie Fisher	12/05/1980	Rue Neige 12	A+	Hairdresser	300201	jake@bluesbrothers.com	

6 record(s) selected.

12.

```
Enter your choice:
5
DONE
1: 2022-04-02 12:00:00 P Carrie Fisher SING80004444
2: 2022-04-02 15:00:00 P Jamila Beral MOM0234333
Enter the appointment number that you would like to work on.
[E] to exit [D] to go back to another date:
```

C)

1.

Discussion: We fetch the relevant informations to fully identify the mother and only the primary key for the father (femail), We then get the relevant information for the test appointment and the associated lab work.

SELECT m.mramqid , m.memail , m.mname , m.mdob , m.mphonenumber , m.maddress , m.mbloodtype , m.mprofession , c.pregnancyid , c.femail , c.numpregnancy , lb.tadate , lb.tahour , lb.taname , lb.tadateprescription , LEFT(lb.result,50), lb.techid , tp.tadatelabwork FROM mother m INNER JOIN conceive c ON m.mramqid=c.motherramq INNER JOIN labwork lb ON lb.tapregnancyid=c.pregnancyid INNER JOIN testapp tp ON lb.tapregnancyid=tp.tapregnancyid WHERE m.mramqid='MOMO234333' AND lb.tadate=tp.tadate AND lb.tahour=tp.tahour

```
db2 => SELECT m.mramqid, m.memail, m.mname, m.mdob, m.mphonenumber, m.maddress, m.mbloodtype, m.mprofession, c.pregnancyid, c.femail, c.numpregnancy, lb.tadate, lb.tahour, lb.taname, lb.tadateprescription, LEFT(lb.result,50), lb.techid, tp.tadatelabwork FROM mother m INNER JOIN conceive c ON m.mramqid=c.motherramq INNER JOIN labwork lb ON lb.tapregnancyid=c.pregnancyid INNER JOIN testapp tp ON lb.tapregnancyid=tp.tapregnancyid WHERE m.mramqid='MOM0234333' AND lb.tadate =tp.tadate AND lb.tahour=tp.tahour
```

MNAME	MDOB	MADDRESS	MBLOODTYPE	MPROFESSION	TECHID	PREGNANCYID	FEMAIL
Jamila Beral	02/02/1989	Amsterdam Airport	AB+	Researcher	310600	jackson@outlook.com	
Jamila Beral	02/02/1989	Amsterdam Airport	AB+	Researcher	1001	02/04/2022	
Jamila Beral	02/02/1989	Amsterdam Airport	AB+	Researcher	1012	03/09/2022	
Jamila Beral	02/02/1989	Amsterdam Airport	AB+	Researcher	1001	04/07/2022	

3 record(s) selected.

2.

DONE

1: 2022-04-02 12:00:00 P Carrie Fisher SING80004444

2: 2022-04-02 15:00:00 P Jamila Beral MOM0234333

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

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

2

2022-04-02 15:00:00 P Jamila Beral MOM0234333

1. Review notes

2. Review tests

3. Add a note

4. Prescribe a test

5. Go back to the appointments

3.

5. Go back to the appointments

Enter your choice:

1

2022-01-02 09:10:34.0 Mother and father healthy

2022-01-17 10:32:10.0 test needed1

2022-02-02 10:45:11.0 successful sampling

2022-03-02 11:54:22.0 expected date

2022-04-02 16:01:22.0 birth preparation

2022-06-30 16:32:20.0 birth setting

2022-04-02 15:00:00 P Jamila Beral MOM0234333

1. Review notes

2. Review tests

3. Add a note

4. Prescribe a test

5. Go back to the appointments

Enter your choice:

|

4.

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

INSERT INTO testapp VALUES ('2022-04-02' , '15:00:00' , 310600 , 'Group B streptococcus', '2022-04-02', '2022-04-02' , null)

INSERT INTO labwork VALUES ('2022-04-02' , '15:00:00' , 310600 , 'Group B streptococcus', '2022-04-02', '2034' , null)

INSERT INTO samplingtestapp VALUES ('2022-04-02' , '15:00:00' , 310600 , 'Group B streptococcus', '2022-04-02', 'Blood')

2022-04-02 15:00:00 P Jamila Beral MOM0234333

1. Review notes

2. Review tests

3. Add a note

4. Prescribe a test

5. Go back to the appointments

Enter your choice:

|

5.

```
SELECT m.mramqid , m.memail , m.mname , m.mdob , m.mphonenumber , m.maddress ,
m.mbloodtype , m.mprofession , c.pregnancyid , c.femail , c.numpregnancy , lb.tadate ,
lb.tahour , lb.taname , lb.tadateprescription , LEFT(lb.result,50), lb.techid , tp.tadatelabwork
FROM mother m INNER JOIN conceive c ON m.mramqid=c.motherramq INNER JOIN
labwork lb ON lb.tapregnancyid=c.pregnancyid INNER JOIN testapp tp ON
lb.tapregnancyid=tp.tapregnancyid WHERE m.mramqid='MOMO234333' AND lb.tadate
=tp.tadate AND lb.tahour=tp.tahour AND tp.taname = lb.taname
```

```
db2 => SELECT m.mramqid , m.memail , m.mname , m.mdob , m.mphonenumber , m.maddress , m.mbloodtype , m.mprofession , c.pregnancyid , c.femail , c.numpregnancy , lb.tadate , lb.tahour , lb.taname , lb.tadateprescription , LEFT(lb.result,50), lb.techid , tp.tadatelabwork FROM mother m INNER JOIN conceive c ON m.mramqid=c.motherramq INNER JOIN labwork lb ON lb.tapregnancyid=c.pregnancyid INNER JOIN testapp t p ON lb.tapregnancyid=tp.tapregnancyid WHERE m.mramqid='MOMO234333' AND lb.tadate =tp.tadate AND lb.tahour=tp.tahour AND tp.taname = lb.taname
```

MRAMQID	MEMAIL	MNAME	MDOB	MPHONENUMBER	MADDRESS	MBLOODTYPE	MPROFESSION	PREGNANCYID	FEMAIL	NUMPREGNA
NCY	TADATE	TAHOUR	TANAME	TADATE	PRESCRIPTION 16	TECHID	TADATELABWORK			
MOMO234333	jamilaf@gmail.com	Jamila Beral	02/02/1989	4834568980	Amsterdam Airport	AB+	Researcher	1081 02/04/2022	310600 jackson@outlook.com	
1 02/02/2022 10:00:00	Hormone sample	Jamila Beral	01/17/2022	Low estrogen						
MOMO234333	jamilaf@gmail.com	Jamila Beral	02/02/1989	4834568980	Amsterdam Airport	AB+	Researcher	1081 02/04/2022	310600 jackson@outlook.com	
1 03/02/2022 11:00:00	blood iron	Jamila Beral	02/02/2022	Blood type confirmed						
MOMO234333	jamilaf@gmail.com	Jamila Beral	02/02/1989	4834568980	Amsterdam Airport	AB+	Researcher	1012 03/09/2022	310600 jackson@outlook.com	
1 04/02/2022 15:00:00	Expected date	Jamila Beral	03/02/2022	menstrual sampling successful						
MOMO234333	jamilaf@gmail.com	Jamila Beral	02/02/1989	4834568980	Amsterdam Airport	AB+	Researcher	1081 04/07/2022	310600 jackson@outlook.com	
1 04/02/2022 15:00:00	Group B streptococcus		04/02/2022	-						

4 record(s) selected.

(I modified the query because the previous one may return duplicate entries because the result are not yet available here)

D)

1 and 2.

2022-04-02 15:00:00 P Jamila Beral MOM0234333

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

Enter your choice:

5

DONE

1: 2022-04-02 12:00:00 P Carrie Fisher SING80004444

2: 2022-04-02 15:00:00 P Jamila Beral MOM0234333

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

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

D

Date Format: YYYY-MM-DD

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

We added together the screenshots for part 3 , d, i and ii together.

3.

```
1: 2022-04-02 12:00:00 P Carrie Fisher SING80004444
2: 2022-04-02 15:00:00 P Jamila Beral MOM0234333
Enter the appointment number that you would like to work on.
      [E] to exit [D] to go back to another date:
D
Date Format: YYYY-MM-DD
Please enter the date for appointment list [E] to exit:

2022-03-10
1: 2022-03-10 10:00:00 B Sydney Dog QWED21002333
2: 2022-03-10 14:00:00 B Victoria Gutierrez VICT30002000
3: 2022-03-10 15:00:00 P Carrie Fisher SING80004444
Enter the appointment number that you would like to work on.
      [E] to exit [D] to go back to another date:
|
```

We see 3 appointments, with mothers M3 and M4, that have this midwife as a Backup.

Part 4

CREATE INDEX MPhone ON mother(mphonenumber)

```
db2 => CREATE INDEX MPhone ON mother(mphonenumber)
DB20000I The SQL command completed successfully.
```

```
db2 => SELECT maddress FROM mother WHERE mphonenumber='5143002000'

MADDRESS
-----
22 X Street

1 record(s) selected.
```

PART 5

DATA ANALYTICS

We apply the Pivot Chart as showed on MyCourses.

```
SELECT COUNT(*) , MONTH(dob) FROM baby GROUP BY MONTH(dob)
```

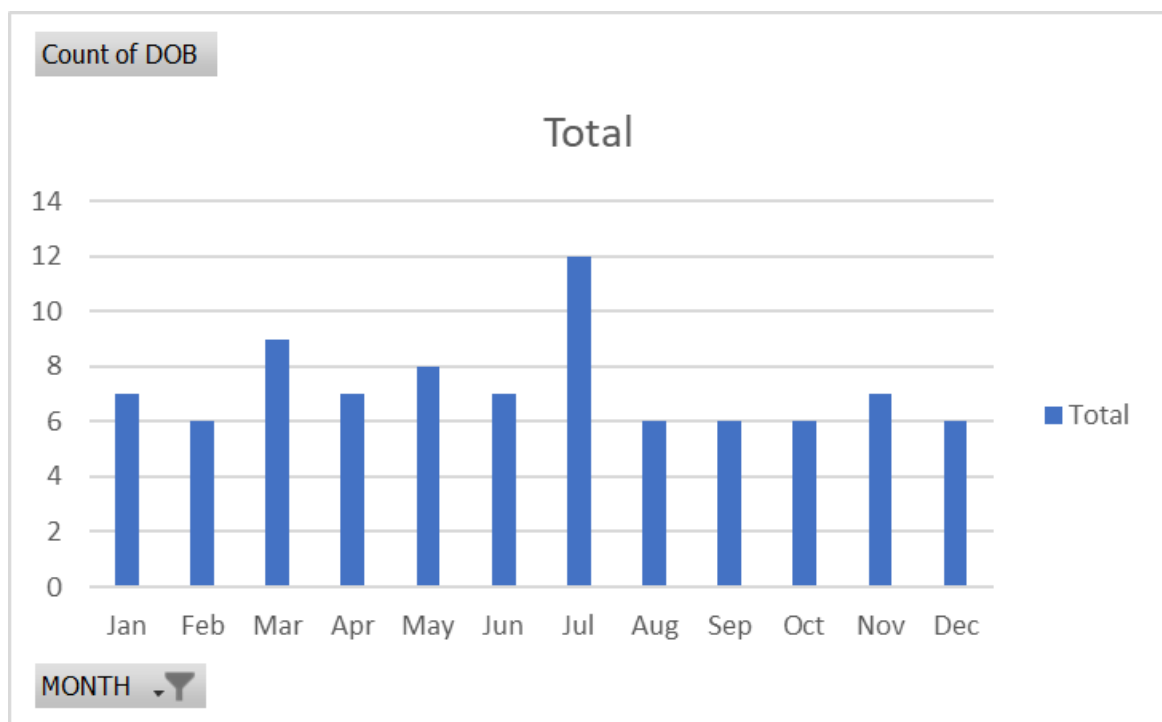
```
db2 => SELECT COUNT(*) , MONTH(dob) FROM baby GROUP BY MONTH(dob)
```

1	2
7	1
6	2
9	3
7	4
8	5
7	6
12	7
6	8
6	9
6	10
7	11
6	12

12 record(s) selected.

```
db2 =>
```

Here is the chart received from the Pivot Chart obtain on Excel.



ADATE	AHOUR	MRAMQID	MNAME	MPHONENUMBER
03/21/2022	09:00:00	VICT30002000	Victoria Gutierrez	5143002000
03/22/2022	10:00:00	VICT30002000	Victoria Gutierrez	5143002000
03/23/2022	09:00:00	QWED21002333	Sydney Dog	4504503000
03/25/2022	11:00:00	QWED21002333	Sydney Dog	4504503000

```
SELECT a.adate,a.ahour,m.mramqid,m.mname,m.mphonenumber
FROM appointment a, mother m, conceive co
WHERE co.pregnancyid = a.pregnancyid AND co.mohterramq=m.mramqid
AND a.adate BETWEEN '2022-03-21' AND '2022-03-25' AND
a.midwifeid IN ( SELECT m.practionerid
FROM midwife m
WHERE miname='Marion Girard')
;
```

TADATE	TADATEPRESCRIPTION	RESULT
--------	--------------------	--------

```
2 record(s) selected.
```

```
SELECT lb.tadate, lb.tadateprescription, lb.result
FROM mother mo, pregnancy p, conceive co, labwork lb
WHERE p.pregnancyid=co.pregnancyid AND mo.mramqid=co.mothersramq
AND lb.tapregnancyid=p.pregnancyid
AND lb.taname='blood iron'
AND mo.mname='Victoria Gutierrez'
AND p.firstdate NOT IN (SELECT MIN(p.firstdate)
FROM mother mo, pregnancy p, conceive co
WHERE p.pregnancyid=co.pregnancyid AND mo.mramqid=co.mothersramq
AND mo.mname='Victoria Gutierrez')
GROUP BY p.firstdate, lb.tadate, lb.tadateprescription, lb.result
HAVING MIN(p.firstdate)=p.firstdate
;
```

```

WITH wap AS(
SELECT wa.hfname AS hfname ,p.pregnancyid AS pid
FROM worksat wa, assignedat aa, birthoperation bo, pregnancy p
WHERE aa.midwife1id=wa.mpid AND bo.pregnancyid=aa.pregnancyid
AND p.pregnancyid=aa.pregnancyid
AND bo.chosendate BETWEEN '2022-07-01' AND '2022-07-31'
GROUP BY wa.hfname, p.pregnancyid
UNION
SELECT wa.hfname AS hfname ,p.pregnancyid AS pid
FROM worksat wa, assignedat aa, pregnancy p
WHERE aa.midwife1id=wa.mpid AND p.pregnancyid=aa.pregnancyid
AND p.pregnancyid NOT IN(SELECT bo.pregnancyid FROM birthoperation bo)
AND p.firstdate BETWEEN '2022-07-01' AND '2022-07-31'
GROUP BY wa.hfname, p.pregnancyid
)
SELECT wap.hfname , COUNT(wap.pid) as pregnancyid_count
FROM wap
GROUP BY wap.hfname

```

```

WITH cd AS(
SELECT CURRENT_DATE as c
FROM sysibm.sysdummy1
)
SELECT mo.mramqid, mo.mname, mo.mphonenumber
FROM mother mo, worksat wa, assignedat aa, conceive co
WHERE mo.mramqid=co.motherramq AND co.pregnancyid=aa.pregnancyid
AND aa.midwife1id=wa.mpid
AND (co.pregnancyid IN (SELECT p.pregnancyid
FROM pregnancy p
GROUP BY p.firstdate,p.pregnancyid
HAVING p.firstdate >=( SELECT MAX(cd.c) FROM cd ) )
OR co.pregnancyid IN (SELECT bo.pregnancyid
FROM birthoperation bo
GROUP BY bo.chosendate,bo.pregnancyid
HAVING bo.chosendate >= (SELECT MAX(cd.c) FROM cd )))
AND wa.hfname='Lac-Saint-Louis'

```

```
db2 => db2 => db2 (cont.) => db2 (cont.) => db2 (cont.) => db2 (cont.) => db2 (cont.) => SELECT m.mramqid,m.mname,SUM(p.numofbabies) AS baby_count FROM conceive co, pregnancy p, mother m WHERE p.pregnancyid=co.pregnancyid AND co.motherramq=m.mramqid AND p.numofbabies >1 GROUP BY m.mramqid,m.mname
```

MARAMQID	MNAME	BABY_COUNT
IRZQ98760000	Khadija Salah	2
SING80004444	Carrie Fisher	3
VICT30002000	Victoria Gutierrez	6

```
3 record(s) selected.
```

```
SELECT m.mramqid,m.mname,SUM(p.numofbabies) AS baby_count
FROM conceive co, pregnancy p, mother m
WHERE p.pregnancyid=co.pregnancyid AND co.motherramq=m.mramqid
AND p.numofbabies >1
GROUP BY m.mramqid,m.mname
;
```

```
CREATE VIEW midwifeinfo
AS
SELECT mi.practitionerid AS pid , mi.miname AS miname, mi.miphonenumber AS phonenumber, mi.miemail AS email,
hcf.hfname AS hfname, hcf.hfaddress AS address
FROM midwife mi, worksat wa, healthcarefacility hcf
WHERE mi.practitionerid=wa.mpid AND hcf.hfphonenumber=wa.hfphone AND hcf.hfname=wa.hfname
AND hcf.hfemail=wa.hfemail;
```

```
db2 => db2 => db2 (cont.) => db2 (cont.) => db2 (cont.) => db2 (cont.) => db2 (cont.) => CREATE VIEW midwifeinfo AS SELECT mi.practitionerid, mi.miname, mi.miphonenumber, mi.miemail, hcf.hfname, hcf.hfaddress FROM midwife mi, worksat wa, healthcarefacility hcf WHERE mi.practitionerid=wa.mpid AND hcf.hfphonenumber=wa.hfphone AND hcf.hfname=wa.hfname AND hcf.hfemail=wa.hfemail
DB20000I The SQL command completed successfully.
```

```
db2 => db2 => db2 (cont.) => db2 (cont.) => SELECT * FROM midwifeinfo FETCH FIRST 5 ROWS ONLY
```

PID	MINAME	PHONENUMBER	EMAIL	HFFNAME	ADDRESS
20133	Marta Ville	780 655 9210	marta33@gmail.com	Faquin Healthcare	123 Private Drive
30445	Emy Joly	980 210 3311	emy1@outlook.com	Aq Center	43 Ella Avenue
21888	Aiko Toyo	980 300 2111	aiko.toyo@gmail.com	Faquin Healthcare	123 Private Drive
25000	Aline Lemieux	755 321 3000	aline.lemieux@gmail.com	Stu Clinic	67 Krow Street
10000	Marion Girard	200 200 2000	marion.girard@gmail.com	Stu Clinic	67 Krow Street

```
5 record(s) selected.
```

```
SELECT *
FROM midwifeinfo
FETCH FIRST 5 ROWS ONLY;
```

```
db2 => db2 => db2 (cont.) => db2 (cont.) => db2 (cont.) => SELECT * FROM midwifeinfo mi WHERE mi.hfname='Lac-Saint-Louis' FETCH FIRST 5 ROWS ONLY
```

PID	MINAME	PHONENUMBER	EMAIL	HFFNAME	ADDRESS
34211	Nabila Ismael	564 212 0000	nabila.is@gmail.com	Lac-Saint-Louis	80 Max Avenue
43320	Sita Bains	514 988 2130	sita.bains@saintlouis.ca	Lac-Saint-Louis	80 Max Avenue

```
2 record(s) selected.
```

```
SELECT *
FROM midwifeinfo mi
WHERE mi.hfname='Lac-Saint-Louis'
FETCH FIRST 5 ROWS ONLY;
```

```
db2 => db2 => db2 (cont.) => db2 (cont.) => INSERT INTO midwifeinfo(pid,miname,phonenum, email,hfname,address) VALUES (100,'Jacqueline Maire','5140002000','jac@aqcenter','Aq Center','43 Ella Avenue')
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
```

```
INSERT INTO midwifeinfo(pid,miname,phonenum, email,hfname,address)
VALUES
(100,'Jacqueline Maire','5140002000','jac@aqcenter','Aq Center','43 Ella Avenue');
```

View is not a proper table but is similar to a projection that can be used as an object in order to. View is a table that can only be unilaterally used to fetch information but not to update, or insert new information into the Database.

```
db2 => db2 => db2 (cont.) => db2 (cont.) => db2 (cont.) => INSERT INTO testapp(tadate,tahour,tapregnancyid,taname,tadateprescription,tadatetest,tadatelabwork) VALUES ('2022-03-10','15:00:00',300201,'Expected date','2022-03-09','2022-03-12','2022-03-08')
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 "VFOURE.TESTAPP.DATE_CHECK1". SQLSTATE=23513
```