

## Relational Diagram:

Mother (QCID, Expected Birth Time, Phone num, Blood Type, Date of Birth, name, Profession, email)

Father (ID, QCID, Phone num, Blood Type, Date of Birth, name, Profession, email)

Child (Date and time of birth, Pregnancy ID, name, gender)

Couple (Couple ID, IsInterested, IsChosen, IsQualified, Pregnancy number, QCID, ID)

- QCID foreign key referencing relation Mother
- ID foreign key referencing relation Father

Pregnancy (Pregnancy ID, Due Date ultrasound, IsHomeBirth, Final Due Date, Due Date Menstrual, Pract ID, Pract ID (B), email)

- Pract ID foreign key referencing relation MidWife
- Pract ID (B) foreign key referencing relation MidWife used (B) to indicate its for backup midwife
- email foreign key referencing relation Birthing Center

Info Session (Session ID, Date & time, language, Pract ID)

- Pract ID foreign key referencing relation MidWife

MidWife (Pract ID, email, name, number, email)

- email foreign key referencing relation Birthing Center

Medical Test (Test ID, Date Taken, Result, Date Prescribed, Type, Date, Pregnancy ID, Pract ID, email, Tech ID, Appointment ID)

- Pregnancy ID foreign key referencing relation Pregnancy
- Pract ID foreign key referencing relation MidWife
- email foreign key referencing relation Birthing Center
- Tech ID foreign key referencing relation Technician
- Appointment ID foreign key referencing relation Appointment

Technician (Tech ID, name, Phone Number)

Appointment (Appointment ID, Pract ID, Pregnancy ID)

- Pract ID foreign key referencing relation MidWife
- Pregnancy ID foreign key referencing relation Pregnancy

Note(Date & Time, Appointment ID, content)

Institution (email, name, number, website, address)

BirthingCenter (email)

- email foreign key referencing relation Birthing Center

Community Clinic (email)

- email foreign key referencing relation Birthing Center

Invites (email, Pregnancy ID, Pract ID, If Registered, If Attended)

- email foreign key referencing relation Birthing Center
- Pregnancy ID foreign key referencing relation Pregnancy
- Pract ID foreign key referencing relation MidWife

## Application interaction:

a)

i)

```
db2 => select * from midwife where practid = 221212
db2 (cont.) => ;
```

PRACTID	EMAIL	NAME	NUMBER	BEMAIL
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0 record(s) selected.

ii)

```
hkanso@winter2022-comp421:~$ java GoBabbyApp
```

```
Please enter your practitioner id [E] to exit:
221212
```

```
Error Invalid ID Retype It
```

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

b)

i)

```
db2 => select mother.name, mother.qcid, pregnancy.coupleid, pregnancynumber
froddb2 (cont.) => m mother, couple, pregnancy
wherdb2 (cont.) => e couple.coupleid = pregnancy.coupleid and couple.qcid = mother.qcid and mother.qcid = 827409;
```

NAME	QCID	COUPLEID	PREGNANCYNUMBER
Lacy Goebbels	827409	566	1
Lacy Goebbels	827409	566	2

2 record(s) selected.

ii)

```
hkanso@winter2022-comp421:~$ java GoBabbyApp
```

```
Please enter your practitioner id [E] to exit:
1276
```

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

iii)

```
Please enter the date for appointment list [E] to exit:
2020-06-05

1: 16:00:00 B Keely Cantu 7942291

2: 19:00:00 P Lacy Goebbels 827409

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

iv)

```
Enter the appointment number that you would like to work on.
[E] to exit [D] to go back to another date :
2

For Lacy Goebbels 827409
1. Review Notes
2. Review test
3. Add a note
4. Prescribe a test
5. Go back to appointments.

Enter your choice:
```

v)

```
Enter your choice:
1

2020-03-05 15:08:00 Suffering Nausea and Vomiting.
2020-06-05 16:12:00 Oestrogen in right range
2020-06-05 15:08:00 Mother refusing to stop smoking
2020-03-05 15:34:00 Couple would prefer home birth.
2020-03-05 15:54:00 Suffering Nausea and Vomiting.

For Lacy Goebbels 827409
1. Review Notes
2. Review test
3. Add a note
4. Prescribe a test
5. Go back to appointments.

Enter your choice:
```

vi)

```
Enter your choice:
2
2020-06-05 [calcium test] very good levels
2020-06-05 [Inhibin] < 5 pg ml-1

For Lacy Goebbels 827409
1. Review Notes
2. Review test
3. Add a note
4. Prescribe a test
5. Go back to appointments.

Enter your choice:
```

vii)

```
Enter your choice:
3

Please type your observation:
this is a custom note
Inserted Note Successfully!

For Lacy Goebbels 827409
1. Review Notes
2. Review test
3. Add a note
4. Prescribe a test
5. Go back to appointments.

Enter your choice:
```

viii)

```
db2 => SELECT note.content, appointment.practid, mother.name, mother.qcid, couple.coupleid, pregnancy.pregnancynumber
FROM appointment, pregnancy, nodb2 (cont.) => te, couple, mother
where couple.db2 (cont.) => coupleid = pregnancy.coupleid and mother.qcid = couple.qcid and appointment.appointmentid = note.appointmentid and appointment.date = note.date and appointment.coupleid = pregnancy.coupleid and appointment.pregnancynumber = pregnancy.pregnancynumber
and mother.qcid = 827409;db2 (cont.) =>
```

CONTENT	PRACTID	NAME	QCID	COUPLEID	PREGNANCYNUMBER
Suffering Nausea and Vomiting.	1276	Lacy Goebbels	827409	566	1
Oestrogen in right range	1276	Lacy Goebbels	827409	566	2
Oestrogen in right range	2036	Lacy Goebbels	827409	566	1
The right growth of the foetus	856	Lacy Goebbels	827409	566	2
Mother refusing to stop smoking	1276	Lacy Goebbels	827409	566	1
Couple would prefer home birth.	1276	Lacy Goebbels	827409	566	1
Suffering Nausea and Vomiting.	1276	Lacy Goebbels	827409	566	1
this is a custom note	1276	Lacy Goebbels	827409	566	1

8 record(s) selected.

ix)

```
Enter your choice:
1

2020-03-05 15:08:00 Suffering Nausea and Vomiting.

2020-06-05 16:12:00 Oestrogen in right range

2020-06-05 15:08:00 Mother refusing to stop smoking

2020-03-05 15:34:00 Couple would prefer home birth.

2020-03-05 15:54:00 Suffering Nausea and Vomiting.

2020-06-05 17:00:00 this is a custom note

For Lacy Goebbels 827409
1. Review Notes
2. Review test
3. Add a note
4. Prescribe a test
5. Go back to appointments.

Enter your choice:
```

x)

```
Enter your choice:
4

Please enter the type of test:
trisomy 21
Inserted Test Successfully!

For Lacy Goebbels 827409
1. Review Notes
2. Review test
3. Add a note
4. Prescribe a test
5. Go back to appointments.

Enter your choice:
```

xi)

```
db2 => SELECT medicaltest.type, medicaltest.result, mother.name, mother.qcid, couple.coupleid, pregnancy.pregnancynumber
FROMdb2 (cont.) => pregnancy, medicaltest, couple, mother
db2 (cont.) => where mother.qcid = couple.qcid and couple.coupleid = pregnancy.coupleid and medicaltest.coupleid = pregnancy.coupleid and medicaltest.pregnancynumber = pregnancy.pregnancynumber and medicaltest.
coupleid = couple.coupleid and medicaltest.dateofbirth IS null
and couple.qcid = 827409;db2 (cont.) => ;
```

TYPE	RESULT	NAME	QCID	COUPLEID	PREGNANCYNUMBER
calcium test	very good levels	Lacy Goebbels	827409	566	1
Inhibin	< 5 pg ml-1	Lacy Goebbels	827409	566	1
trisomy 21	-	Lacy Goebbels	827409	566	1

3 record(s) selected.

xii)

Enter your choice:

5

1: 16:00:00 B Keely Cantu 7942291

2: 19:00:00 P Lacy Goebbels 827409

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

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

c)

i)

```
db2 => SELECT medicaltest.type, medicaltest.result, mother.name, mother.qcid, couple.coupleid, pregnancy.pregnancynumber
db2 (cont.) => FROM pregnancy, medicaltest, couple, mother
db2 (cont.) => where mother.qcid = couple.qcid and couple.coupleid = pregnancy.coupleid and medicaltest.coupleid = pregnancy.coupleid and medicaltest.pregnancynumber = pregnancy.pregnancynumber and medicaltest.
coupleid = couple.coupleid and medicaltest.dateofbirth IS null
and couple.qdb2 (cont.) => cid = 7942291;
```

TYPE	RESULT	NAME	QCID	COUPLEID	PREGNANCYNUMBER
blood iron	healthy amount	Keely Cantu	7942291	582	1

1 record(s) selected.

ii)

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

```
1
```

```
For Keely Cantu 7942291
```

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

```
Enter your choice:
```

iii)

```
Enter your choice:
```

```
1
```

```
2020-01-04 14:05:00 Baby has good movements
```

```
2020-04-04 16:11:00 The right blood pressure and blood sugar levels
```

```
2020-01-04 14:30:00 Mother refusing to stop smoking
```

```
2020-01-04 14:50:00 Oestrogen in right range
```

```
For Keely Cantu 7942291
```

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

```
Enter your choice:
```



iv)

```
Enter your choice:
4

Please enter the type of test:
Group B streptococcus
Inserted Test Successfully!

For Keely Cantu 7942291
1. Review Notes
2. Review test
3. Add a note
4. Prescribe a test
5. Go back to appointments.

Enter your choice:
```

v)

```
db2 => SELECT medicaltest.type, medicaltest.result, mother.name, mother.qcid, couple.coupleid, pregnancy.pregnancynumber
FROM db2 (cont.) => pregnancy, medicaltest, couple, mother
db2 (cont.) => where mother.qcid = couple.qcid and couple.coupleid = pregnancy.coupleid and medicaltest.coupleid = pregnancy.coupleid and medicaltest.pregnancynumber = pregnancy.pregnancynumber and medicaltest.
coupleid = couple.coupleid and medicaltest.dateofbirth IS null
and couple.qcid = 79db2 (cont.) => 42291;
```

TYPE	RESULT	NAME	QCID	COUPLEID	PREGNANCYNUMBER
blood iron	healthy amount	Keely Cantu	7942291	582	1
Group B streptococcus	-	Keely Cantu	7942291	582	1

2 record(s) selected.

d)

i)

```
Enter your choice:
5

1: 16:00:00 B Keely Cantu 7942291
2: 19:00:00 P Lacy Goebbels 827409

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 for appointment list [E] to exit:
```

ii)

```
Please enter the date for appointment list [E] to exit:
2020-02-01
```

iii)

```
Please enter the date for appointment list [E] to exit:
2020-02-01
```

```
1: 13:00:00 P Iola Metzler 1465084
```

```
2: 20:00:00 B Jennifer Lucier 3863952
```

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

#### Indexing:

```
db2 => CREATE INDEX ind1 ON Mother(phonenum);
DB20000I The SQL command completed successfully.
db2 =>
```

#### Data Analytics:

Query:

```
select *, 0 as birthfrequency from (
with t1 (month) as (
    values (1),(2),(3),(4),(5),(6),(7),(8),(9),(10),(11),(12)
)
select * from t1
t1
EXCEPT
```

(

```
select MONTH(dateofbirth) as month
```

```
from child
```

```
where dateofbirth<'03-14-2022'
```

```
group by MONTH(dateofbirth)))
```

```
union
```

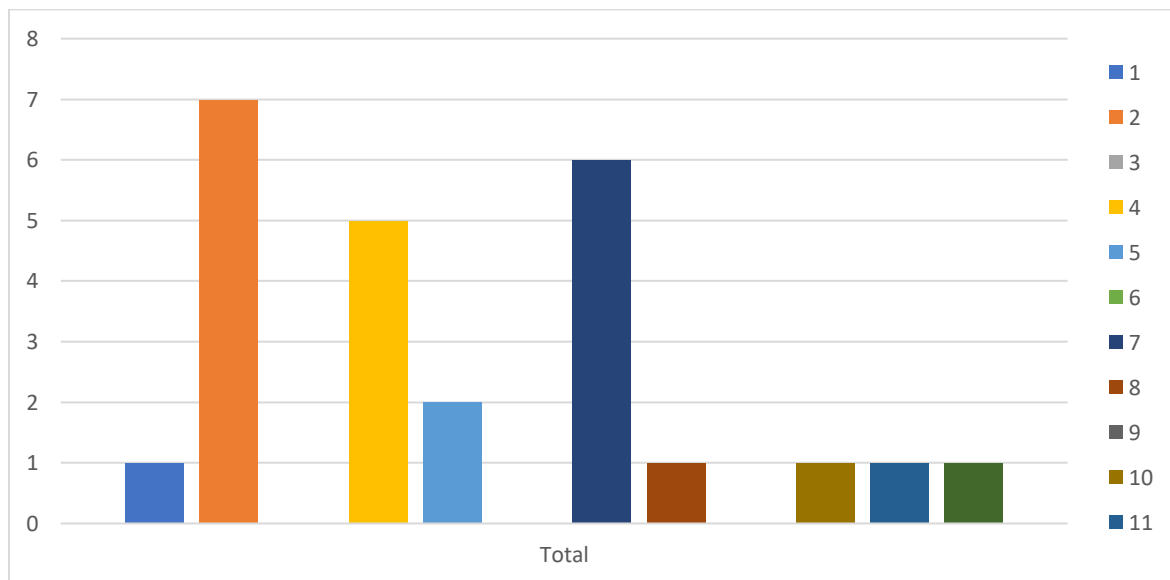
```
select MONTH(dateofbirth) as month, count(dateofbirth || timeOfBirth || coupleid ||  
pregnancynumber) as birthfrequency
```

```
from child
```

```
where dateofbirth<'03-14-2022'
```

```
group by MONTH(dateofbirth) order by month;
```

Visual:



### Assumptions/Read me:

Notes and tests inputted by user are assigned the same date as the appointment with a random time.

In the data visualization the nth number corresponds to the nth month, ie. 1 = January, 2 = February,... 12 = December.