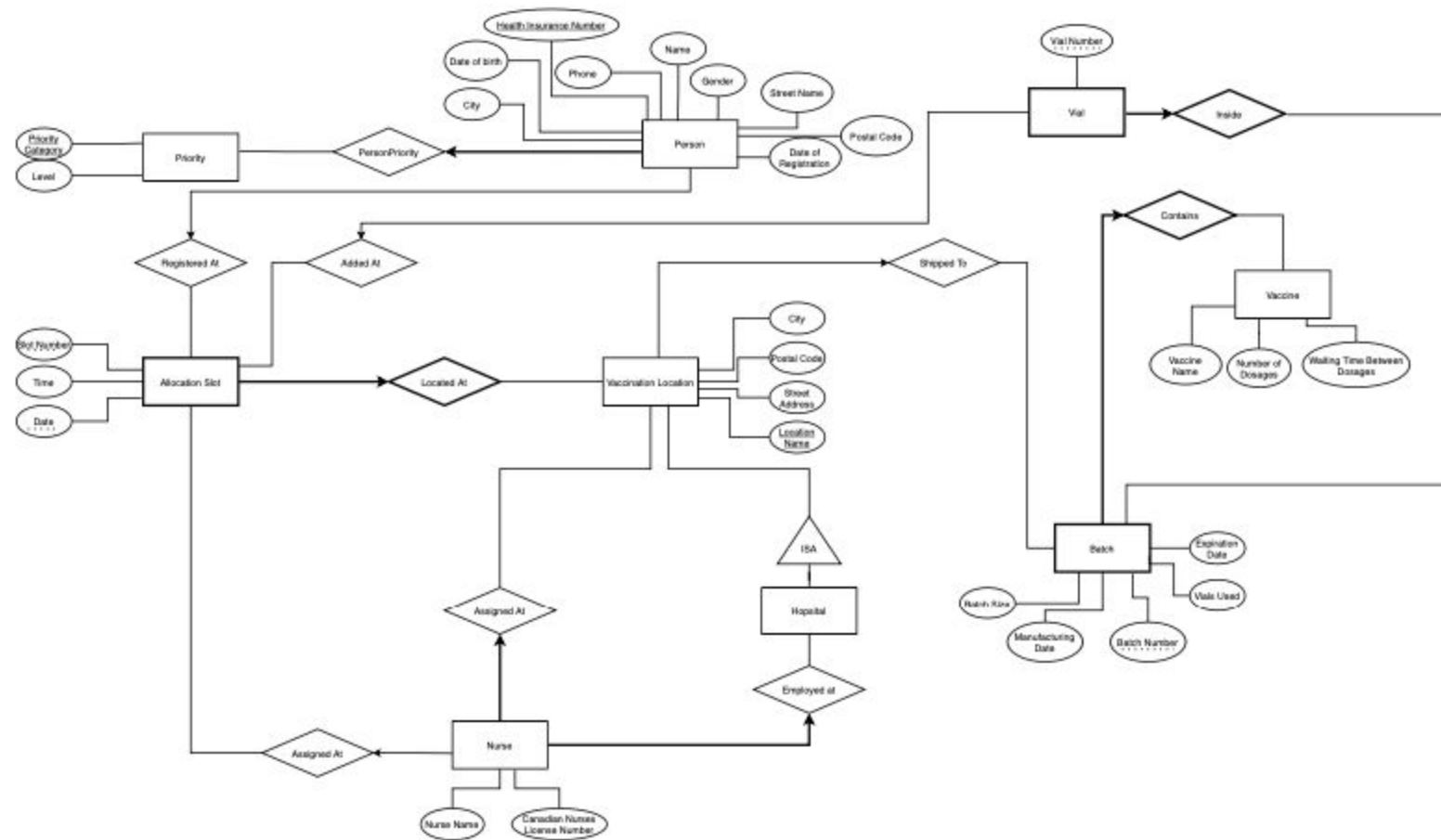


ER model

\*Note no changes made to the ER model



a)

1.

```
db2 => SELECT * FROM resident where hinsurnum = 7
```

HINSURNUM	NAME	GENDER	BIRTHDATE	PHONE	CITY	POSTALCODE	STREETADDR	REGDATE	CNAME
-----									
-----									

0 record(s) selected.

2.

```

[Parsa Yadollahi]$ javac VaccineApp.java && java VaccineApp
VaccineApp Main Menu
    1. Add a Person
    2. Assign a slot to a Person
    3. Enter Vaccination information
    4. Exit Application
Please Enter Your Option: 1
Please entre the relevant information:

    hinsurnum VARCHAR(50) NOT NULL
    name VARCHAR(50)
    gender VARCHAR(50) NOT NULL,
    birthdate DATE NOT NULL,
    phone VARCHAR(50) NOT NULL,
    city VARCHAR(50) NOT NULL,
    postalcode VARCHAR(50) NOT NULL,
    streetaddr VARCHAR(50) NOT NULL,
    regdate DATE NOT NULL,
    cname VARCHAR(50) NOT NULL,

7
Parsa Y
M
1111-01-1
514-123-4321
Montreal
J9J9J9
streetz
1111-01-2
Students
SELECT hinsurnum FROM resident WHERE hinsurnum = 7
INSERT INTO resident VALUES ( '7', 'Parsa Y', 'M', '1111-01-1', '514-123-4321', 'Montreal', 'J9J9J9', 'streetz', '1111-01-2', 'Students')
VaccineApp Main Menu
    1. Add a Person
    2. Assign a slot to a Person
    3. Enter Vaccination information
    4. Exit Application
Please Enter Your Option: |

```

3.

hinsurnum	NAME	GENDER	BIRTHDATE	PHONE	CITY	POSTALCODE	STREETADDR	REGDATE	CNME
1	Tony	M	01/01/1111	514-123-4567	Montreal	A5A5A1	1 one	01/02/1111	Elderly
2	Jane Doe	F	02/01/1111	514-123-4567	Montreal	B2B2B2	2 two	12/10/2020	Teachers
3	Parsa	M	03/01/1111	514-123-4567	Montreal	C1C1C3	3 three	03/02/1111	Teachers
4	Montana	M	04/01/1111	514-123-4567	Montreal	D4D4D4	4 four	04/02/1111	Students
5	ONE to the moon please	F	05/01/1111	514-123-4567	Montreal	E5E5E5	5 five	05/02/1111	Everybody Else
6	Khafvsh	M	01/01/1111	514-123-1234	Montreal	A2A2A2	2 eight	01/02/1111	Elderly
7	Parsa Y	M	01/01/1111	514-123-4321	Montreal	J9J9J9	streetz	01/02/1111	Students

4.

```
VaccineApp Main Menu
1. Add a Person
2. Assign a slot to a Person
3. Enter Vaccination information
4. Exit Application
Please Enter1
Please entre the relevant information:

    hinsurnum VARCHAR(50) NOT NULL
    name VARCHAR(50)
    gender VARCHAR(50) NOT NULL,
    birthdate DATE NOT NULL,
    phone VARCHAR(50) NOT NULL,
    city VARCHAR(50) NOT NULL,
    postalcode VARCHAR(50) NOT NULL,
    streetaddr VARCHAR(50) NOT NULL,
    regdate DATE NOT NULL,
    cname VARCHAR(50) NOT NULL,

7
Parsa Y
M
1111-01-1
514-321-4321
Montreal
J9J9J9
streetz
1111-01-2
Students
SELECT hinsurnum FROM resident WHERE hinsurnum = 7
The resident with Health Insurance number 7 already exists, modify their information with the current info? (Y/N)
Y
UPDATE resident SET hinsurnum = '7', name = 'Parsa Y', gender = 'M', birthdate = '1111-01-1', phone = '514-321-4321', city = 'Montreal', postalcode = 'J9J9J9', streetaddr = 'streetz', regdate = '1111-01-2', cname = 'Students' WHERE hinsurnum='7'
VaccineApp Main Menu
1. Add a Person
2. Assign a slot to a Person
3. Enter Vaccination information
4. Exit Application
Please Enter Your Option: |
```

\* I updated the phone number only

5.

db2 => select \* from resident

HINSURNUM	NAME	GENDER	BIRTHDATE	PHONE	CITY	POSTALCODE	STREETADDR	REGDATE	CNAME
1	Tony	M	01/01/1111	514-123-4567	Montreal	A1A1A1	1 one	01/02/1111	Elderly
2	Jane Doe	F	02/01/1111	514-123-4567	Montreal	B2B2B2	2 two	12/10/2020	Teachers
3	Parsa	M	03/01/1111	514-123-4567	Montreal	C3C3C3	3 three	03/02/1111	Teachers
4	Montana	M	04/01/1111	514-123-4567	Montreal	D4D4D4	4 four	04/02/1111	Students
5	ONE to the moon please	F	05/01/1111	514-123-4567	Montreal	E5E5E5	5 five	05/02/1111	Everybody Else
6	Khafreh	M	01/01/1111	514-123-1234	Montreal	A2A2A2	2 eight	01/02/1111	Elderly
7	Parsa Y	M	01/01/1111	514-321-4321	Montreal	J9J9J9	streetz	01/02/1111	Students

\* Notice only the phone number change on column 5. From 514-123-4321 to 514-321-4321

7	Parsa Y	M	01/01/1111	514-123-4321
---	---------	---	------------	--------------

7	Parsa Y	M	01/01/1111	514-321-4321
---	---------	---	------------	--------------

b)

1.

```
db2 => SELECT * FROM slot WHERE hinsurnum = 7
```

SLOTNUM	VTIME	VDATE	LNAME	ONUMBER	VIALNUMBER	BATCHNUMBER	VNAME	HINSURNUM	ASGNDATE
0 record(s) selected.									

\* the new PERSON that we added is not in the slots table meaning they have not been vaccinated yet  
2.

```
db2 => SELECT * FROM SLOT
```

SLOTNUM	VTIME	VDATE	LNAME	ONUMBER	VIALNUMBER	BATCHNUMBER	VNAME	HINSURNUM	ASGNDATE
1	12:30:00	03/20/2021	Jewish General	1	1	1	Moderna	1	03/19/2021
2	13:20:00	03/20/2021	Jewish General	-	-	-	Moderna	-	03/16/2021
3	14:30:00	03/20/2021	Jewish General	1	2	2	Moderna	3	03/19/2021
4	15:30:00	03/20/2021	Jewish General	2	1	2	Moderna	4	03/19/2021
5	16:30:00	02/06/2021	Jewish General	3	5	5	Pfizer-BioNTech	2	02/05/2021
6	12:30:00	01/01/2020	Jewish General	1	5	5	Pfizer-BioNTech	-	01/01/2020
7	13:30:00	01/01/2020	Montreal	1	5	5	Pfizer-BioNTech	5	01/01/2020

7 record(s) selected.

These are the available slots.

```
[Parsa Yadollahi]$ javac VaccineApp.java && java VaccineApp
VaccineApp Main Menu
  1. Add a Person
  2. Assign a slot to a Person
  3. Enter Vaccination information
  4. Exit Application
Please Enter Your Option: 2
Please entre the relevant information:

Social Insurance Number
slotnum INTEGER NOT NULL
vtime TIME NOT NULL
vdate VARCHAR(50) NOT NULL,
lname VARCHAR(50) NOT NULL,
7
2
13:20
2021-03-20
Jewish General
SELECT COUNT(*) FROM slot WHERE vtime = '13:20' AND hinsurnum = '7' AND vdate = '2021-03-20' AND lname = 'Jewish General';
0
UPDATE slot SET hinsurnum = '7', asgndate = '2021-03-16' WHERE slotnum='2' AND vdate='2021-03-20' AND lname = 'Jewish General' AND vtime = '13:20:00'
VaccineApp Main Menu
  1. Add a Person
  2. Assign a slot to a Person
  3. Enter Vaccination information
  4. Exit Application
Please Enter Your Option: |
```

3.

```
db2 => select * from slot;
```

SLOTNUM	VTIME	VDATE	LNAME	CNLNUMBER	VIALNUMBER	BATCHNUMBER	VNAME	HINSURNUM	ASGNDATE
1	12:30:00	03/20/2021	Jewish General	1	1	1	Moderna	1	03/19/2021
2	13:20:00	03/20/2021	Jewish General	-	-	-	Moderna	7	03/16/2021
3	14:30:00	03/20/2021	Jewish General	1	2	2	Moderna	3	03/19/2021
4	15:30:00	03/20/2021	Jewish General	2	1	2	Moderna	4	03/19/2021
5	16:30:00	02/06/2021	Jewish General	3	5	5	Pfizer-BioNTech	2	02/05/2021
6	12:30:00	01/01/2020	Jewish General	1	5	5	Pfizer-BioNTech	-	01/01/2020
7	13:30:00	01/01/2020	Montreal	1	5	5	Pfizer-BioNTech	5	01/01/2020

7 record(s) selected.

Notice on the 9th column of the 2nd row there is now the resident with health insurance number 7 allocated.

4.

```
[Parsa Yadollahi]$ javac VaccineApp.java && java VaccineApp
VaccineApp Main Menu
  1. Add a Person
  2. Assign a slot to a Person
  3. Enter Vaccination information
  4. Exit Application
Please Enter Your Option: 2
Please entre the relevant information:

  Social Insurance Number
  slotnum INTEGER NOT NULL
  vtime TIME NOT NULL
  vdate VARCHAR(50) NOT NULL,
  lname VARCHAR(50) NOT NULL,
1
2
13:20
2021-03-20
Jewish General
SELECT hinsurnum FROM slot WHERE vtime = '13:20' AND slotnum = '2' AND vdate = '2021-03-20' AND lname = 'Jewish General';
This slot is already taken
VaccineApp Main Menu
  1. Add a Person
  2. Assign a slot to a Person
  3. Enter Vaccination information
  4. Exit Application
Please Enter Your Option: |
```

5.

```
db2 => select * from slot;
```

SLOTNUM	VTIME	VDATE	LNAME	CNINUMBER	VIALNUMBER	BATCHNUMBER	VNAME	HINSURNUM	ASGNDATE
1	12:30:00	03/20/2021	Jewish General	1	1	1	Moderna	1	03/19/2021
2	13:20:00	03/20/2021	Jewish General	-	-	-	Moderna	7	03/19/2021
3	14:30:00	03/20/2021	Jewish General	1	2	2	Moderna	3	03/19/2021
4	15:30:00	03/20/2021	Jewish General	2	1	2	Moderna	4	03/19/2021
5	16:30:00	02/06/2021	Jewish General	3	5	5	Pfizer-BioNTech	2	02/05/2021
6	12:30:00	01/01/2020	Jewish General	1	5	5	Pfizer-BioNTech	-	01/01/2020
7	13:30:00	01/01/2020	Montreal	1	5	5	Pfizer-BioNTech	5	01/01/2020

7 record(s) selected.

Health insurance number is still 7 and not 1 like specified above

c)

1.

```
db2 => select * from vaccine where vname = 'Pfizer-BioNTech' AND doses = 2
```

VNAME	WAITPERIOD	DOSES
Pfizer-BioNTech	4	2

1 record(s) selected.

2.

```
db2 => select count(*) FROM slot where hinsurnum=5 and vname='Pfizer-BioNTech'
```

1
2

1 record(s) selected.

3.

SLOTNUM	VTIME	VDATE	LNAME	CNLNUMBER	VIALNUMBER	BATCHNUMBER	VNAME	HINSURNUM	ASGNDATE
1	12:30:00	03/20/2021	Jewish General	1	1	1	Moderna	1	03/19/2021
2	13:20:00	03/20/2021	Jewish General	-	-	-	Moderna	7	03/16/2021
3	14:30:00	03/20/2021	Jewish General	1	2	2	Moderna	3	03/19/2021
4	15:30:00	03/20/2021	Jewish General	2	1	2	Moderna	4	03/19/2021
5	16:30:00	04/04/2021	Jewish General	3	5	5	Pfizer-BioNTech	-	02/05/2021
6	12:30:00	01/01/2020	Jewish General	1	5	5	Pfizer-BioNTech	5	01/01/2020
7	13:30:00	01/01/2020	Montreal	1	5	5	Pfizer-BioNTech	5	01/01/2020

7 record(s) selected.

Adding another slot to slotnum 5

```

Please entre the relevant information:

Social Insurance Number
slotnum INTEGER NOT NULL
vtime TIME NOT NULL
vdate VARCHAR(50) NOT NULL,
lname VARCHAR(50) NOT NULL,

5
5
16:30
2021-04-04
Jewish General
SELECT hinsurnum FROM slot WHERE vtime = '16:30' AND slotnum = '5' AND vdate = '2021-04-04' AND lname = 'Jewish General';
AAAAAAA
2
Does not need any more doses!

```

4.

SLOTNUM	VTIME	VDATE	LNAME	CNLNUMBER	VIALNUMBER	BATCHNUMBER	VNAME	HINSURNUM	ASGNDATE
1	12:30:00	03/20/2021	Jewish General	1	1	1	Moderna	1	03/19/2021
2	13:20:00	03/20/2021	Jewish General	-	-	-	Moderna	7	03/16/2021
3	14:30:00	03/20/2021	Jewish General	1	2	2	Moderna	3	03/19/2021
4	15:30:00	03/20/2021	Jewish General	2	1	2	Moderna	4	03/19/2021
5	16:30:00	04/04/2021	Jewish General	3	5	5	Pfizer-BioNTech	-	02/05/2021
6	12:30:00	01/01/2020	Jewish General	1	5	5	Pfizer-BioNTech	5	01/01/2020
7	13:30:00	01/01/2020	Montreal	1	5	5	Pfizer-BioNTech	5	01/01/2020

d)

1.

db2 => select \* from slot

SLOTNUM	VTIME	VDATE	LNAME	CNLNUMBER	VIALNUMBER	BATCHNUMBER	VNAME	HINSURNUM	ASGNDATE
1	12:30:00	03/20/2021	Jewish General	1	1	1	Moderna	1	03/19/2021
2	13:20:00	03/20/2021	Jewish General	-	-	-	-	7	03/16/2021
3	14:30:00	03/20/2021	Jewish General	1	2	2	Moderna	3	03/19/2021
4	15:30:00	03/20/2021	Jewish General	2	1	2	Moderna	4	03/19/2021
5	16:30:00	04/04/2021	Jewish General	3	5	5	Pfizer-BioNTech	-	02/05/2021
6	12:30:00	01/01/2020	Jewish General	1	5	5	Pfizer-BioNTech	5	01/01/2020
7	13:30:00	01/01/2020	Montreal	1	5	5	Pfizer-BioNTech	5	01/01/2020

7 record(s) selected.

This is before administering the vaccine, nurse and vial to resident with health insurance number 7



```
[Parsa Yadollahi]$ javac Vaccjavac VaccineApp.java && java VaccineApp
```

```
VaccineApp Main Menu
```

1. Add a Person
2. Assign a slot to a Person
3. Enter Vaccination information
4. Exit Application

```
Please Enter Your Option: 3
```

```
Please entre the relevant information:
```

```
slotnum INTEGER NOT NULL
vtime TIME NOT NULL
vdate VARCHAR(50) NOT NULL,
lname VARCHAR(50),
cnlnumber VARCHAR(50),
vialnumber INTEGER,
batchnumber INTEGER,
vname VARCHAR(50),
hinsurnum VARCHAR(50),
asgndate DATE,
```

```
2
```

```
13:20
```

```
2021-03-20
```

```
Jewish General
```

```
2
```

```
2
```

```
2
```

```
Moderna
```

```
7
```

```
SELECT vname, vdate FROM SLOT WHERE hinsurnum = 7
```

```
SELECT * FROM nurseassignments WHERE vdate='2021-03-20' AND lname = 'Jewish General' AND cnlnumber= '2';
```

```
UPDATE slot SET cnlnumber = 2, vialnumber='2', batchnumber= '2', vname='Moderna' WHERE lname = 'Jewish General' AND vdate = '2021-03-20' AND slotnum = '2';
```

```
Resident with Health Insurance Number 7 has successfully been assigned to inputed slot.
```

SLOTNUM	VTIME	VDATE	LNAME	CNLNUMBER	VIALNUMBER	BATCHNUMBER	VNAME	HINSURNUM	ASGNDATE
1	12:30:00	03/20/2021	Jewish General	1	1	1	Moderna	1	03/19/2021
2	13:20:00	03/20/2021	Jewish General	2	2	2	Moderna	7	03/16/2021
3	14:30:00	03/20/2021	Jewish General	1	2	2	Moderna	3	03/19/2021
4	15:30:00	03/20/2021	Jewish General	2	1	2	Moderna	4	03/19/2021
5	16:30:00	04/04/2021	Jewish General	3	5	5	Pfizer-BioTech	-	02/05/2021
6	12:30:00	01/01/2020	Jewish General	1	5	5	Pfizer-BioTech	5	01/01/2020
7	13:30:00	01/01/2020	Montreal	1	5	5	Pfizer-BioTech	5	01/01/2020

```
7 record(s) selected.
```

As you can see now slot number 2 with health insurance number 7 has been assigned to a nurse with canadian licence number 2, vial number 2 and batch number 2 and vaccine Moderna.

2. The query I used is:

```
SELECT t1.* from (SELECT t1.*, t2.nname from (SELECT t1.*, t2.name FROM slot AS t1 JOIN resident AS t2 ON
t1.hinsurnum = t2.hinsurnum) AS t1 JOIN nurse as t2 ON t1.cnlnumber = t2.cnlnumber) as t1 JOIN vial as t2 ON
t1.vname = t2.vname AND t1.batchnumber = t2.batchnumber and t1.vialnumber = t2.vialnumber
```

Which resulted in:

SLOTNUM	VTIME	VDATE	LNAME	CNLNUMBER	VIALNUMBER	BATCHNUMBER	VNAME	HINSURNUM	ASGDATE	NAME	NNAME
1	12:30:00	03/20/2021	Jewish General	1	1	1	Moderna	1	03/19/2021	Tony	NamesIARandomNurse
2	13:20:00	03/20/2021	Jewish General	2	2	2	Moderna	7	03/16/2021	Parsa Y	GME
3	14:30:00	03/20/2021	Jewish General	1	2	2	Moderna	3	03/19/2021	Parsa	NamesIARandomNurse
4	15:30:00	03/20/2021	Jewish General	2	1	2	Moderna	4	03/19/2021	Montana	GME
6	12:30:00	01/01/2020	Jewish General	1	5	5	Pfizer-BioNTech	5	01/01/2020	GME to the moon please	NamesIARandomNurse
7	13:30:00	01/01/2020	Montreal	1	5	5	Pfizer-BioNTech	5	01/01/2020	GME to the moon please	NamesIARandomNurse

6 record(s) selected.

e)

1.

SLOTNUM	VTIME	VDATE	LNAME	CNLNUMBER	VIALNUMBER	BATCHNUMBER	VNAME	HINSURNUM	ASGDATE
1	12:30:00	03/20/2021	Jewish General	1	1	1	Moderna	1	03/19/2021
2	13:20:00	03/20/2021	Jewish General	2	2	2	Moderna	7	03/16/2021
3	14:30:00	02/06/2021	Jewish General	1	2	2	Moderna	3	03/19/2021
4	15:30:00	03/20/2021	Jewish General	2	1	2	Moderna	4	03/19/2021
5	16:30:00	04/04/2021	Jewish General	3	5	5	Pfizer-BioNTech	-	02/05/2021
6	12:30:00	01/01/2020	Jewish General	1	5	5	Pfizer-BioNTech	5	01/01/2020
7	13:30:00	01/01/2020	Montreal	1	5	5	Pfizer-BioNTech	5	01/01/2020

7 record(s) selected.

We're going to be using the resident with health insurance number 3 which has taken one vaccine on Feb 6 2020. To show this in more details we use the query:

```
SELECT count(*) AS num_vaccines_taken, t1.name as resident_name from (SELECT t1.*, t2.name FROM slot AS t1 LEFT JOIN
resident AS t2 ON t1.hinsurnum = t2.hinsurnum) as t1 WHERE t1.hinsurnum = 3 AND vdate < (SELECT current date FROM
sysibm.sysdummy1) GROUP BY t1.name
```

NUM_VACCINES_TAKEN	RESIDENT_NAME
1	Parsa

Which returns all vaccines taken by the person with health insurance number 3 to today.

2.

SLOTNUM	VTIME	VDATE	LNAME	CNNUMBER	VIALNUMBER	BATCHNUMBER	VNAME	HINSURNUM	ASGNDATE
1	12:30:00	03/20/2021	Jewish General	1	1	1	Moderna	1	03/19/2021
2	13:20:00	03/20/2021	Jewish General	2	2	2	Moderna	7	03/16/2021
3	14:30:00	02/06/2021	Jewish General	1	2	2	Moderna	3	03/19/2021
4	15:30:00	03/20/2021	Jewish General	2	1	2	Moderna	4	03/19/2021
5	16:30:00	04/04/2021	Jewish General	3	2	3	Moderna	5	02/05/2021
6	12:30:00	01/01/2020	Jewish General	1	5	5	Pfizer-BioNTech	5	01/01/2020
7	13:30:00	01/01/2020	Montreal	1	5	5	Pfizer-BioNTech	5	01/01/2020

7 record(s) selected.

We are going to assign slot 5 to resident with health insurance number 3

```
[Parsa Yadollahi]$ javac VaccineApp.java && java VaccineApp
VaccineApp Main Menu
  1. Add a Person
  2. Assign a slot to a Person
  3. Enter Vaccination information
  4. Exit Application
Please Enter Your Option: 3
Please enter the relevant information:

slotnum INTEGER NOT NULL
vtime TIME NOT NULL
vdate VARCHAR(50) NOT NULL,
lname VARCHAR(50),
cnlnumber VARCHAR(50),
vialnumber INTEGER,
batchnumber INTEGER,
vname VARCHAR(50),
hinsurnum VARCHAR(50),
asgndate DATE,
5
16:30
2021-04-4
Jewish General
3
2
3
Moderna
3
SELECT vname, vdate FROM SLOT WHERE hinsurnum = 3
SELECT * FROM nurseassignments WHERE vdate='2021-04-4' AND lname = 'Jewish General' AND cnlnumber= '3';
UPDATE slot SET cnlnumber = 3, vialnumber='2', batchnumber= '3', vname='Moderna' WHERE lname = 'Jewish General' AND vdate = '2021-04-4' AND slotnum = '5';
Resident with Health Insurance Number 3 has successfully been assigned to inputed slot.
VaccineApp Main Menu
  1. Add a Person
  2. Assign a slot to a Person
  3. Enter Vaccination information
  4. Exit Application
Please Enter Your Option: |
```

3.

SLOTNUM	VTIME	VDATE	LNAME	ONNUMBER	VIALNUMBER	BATCHNUMBER	VNAME	HINSURNUM	ASGDATE
1	12:30:00	03/20/2021	Jewish General	1	1	1	Moderna	1	03/19/2021
2	13:20:00	03/20/2021	Jewish General	2	2	2	Moderna	7	03/16/2021
3	14:30:00	02/06/2021	Jewish General	1	2	2	Moderna	3	03/19/2021
4	15:30:00	03/20/2021	Jewish General	2	1	2	Moderna	4	03/19/2021
5	16:30:00	04/04/2021	Jewish General	3	2	3	Moderna	-	02/05/2021
6	12:30:00	01/01/2020	Jewish General	1	5	5	Pfizer-BioNTech	5	01/01/2020
7	13:30:00	01/01/2020	Montreal	1	5	5	Pfizer-BioNTech	5	01/01/2020
8	11:11:00	02/02/2022	Jewish General	2	5	5	Pfizer-BioNTech	-	03/19/2021

8 record(s) selected.

We are going to try to insert resident with health insurance number 3 into slot 8 which uses vaccine Pfizer-BioNTech and vialnumber 5.

```
[Parsa Yadollahi]$ javac VaccineApp.java && java VaccineApp
VaccineApp Main Menu
1. Add a Person
2. Assign a slot to a Person
3. Enter Vaccination information
4. Exit Application
Please Enter Your Option: 3
Please entre the relevant information:

slotnum INTEGER NOT NULL
vtime TIME NOT NULL
vdate VARCHAR(50) NOT NULL,
lname VARCHAR(50),
cnlnumber VARCHAR(50),
vialnumber INTEGER,
batchnumber INTEGER,
vname VARCHAR(50),
hinsurnum VARCHAR(50),
asgdate DATE,
8
11:11
2022-02-2
Jewish General
2
5
5
Pfizer-BioNTech
3
SELECT vname, vdate FROM SLOT WHERE hinsurnum = 3
SELECT * FROM nurseassignments WHERE vdate='2022-02-2' AND lname = 'Jewish General' AND cnlnumber= '2';
ERROR: The Resident has been vaccinated with a different Vaccine
VaccineApp Main Menu
1. Add a Person
2. Assign a slot to a Person
3. Enter Vaccination information
4. Exit Application
Please Enter Your Option: |
```

As you can see, I am unable to allocate that slot to that resident because they do not have the same vaccine name.

### 3. Indexing

```
db2 => CREATE INDEX resident_phone ON resident(phone)
DB20000I  The SQL command completed successfully.
db2 => |
```

Both are unique to the individual which means they can both identify a resident. There are both good and bad while identifying with indexing vs. phone numbers.

Case 1: Assuming we know both the phone number and insurance number of the individual we are looking for, then using the indexing would be faster since it is a primary key and an integer while the phone number is a varchar. My implementation of the phone field is a varchar with length 50 (which could be larger) while the indexing would be an integer. Since searching for an int is faster than a varchar, this would take less time since integers take less space.

Case 2: Now, having the phone number will allow us to search a specific area code which narrows down the number of addresses we would like to search for. Meaning that searching using the phone number could potentially be more practical/efficient.

### 4. Data Visualization

**Command:** `EXPORT TO /home/2019/pyadol/COMP-421/COMP-421/P3/p3_q4_data.csv OF DEL MESSAGES ON SELECT vdate, count(vialnumber) as num_people FROM slot WHERE hinsurnum IN (SELECT hinsurnum FROM slot GROUP BY hinsurnum HAVING COUNT(hinsurnum) = 1) GROUP BY vdate`

Row Labels	Sum of num_people
2021-02-06	6
2021-03-20	8
2022-02-02	7
2022-02-03	10
2022-02-04	12
2022-02-05	30
Total	73

