

**Warm-Up Project COMP 353**  
**Group psc353\_4**

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## **Assumptions**

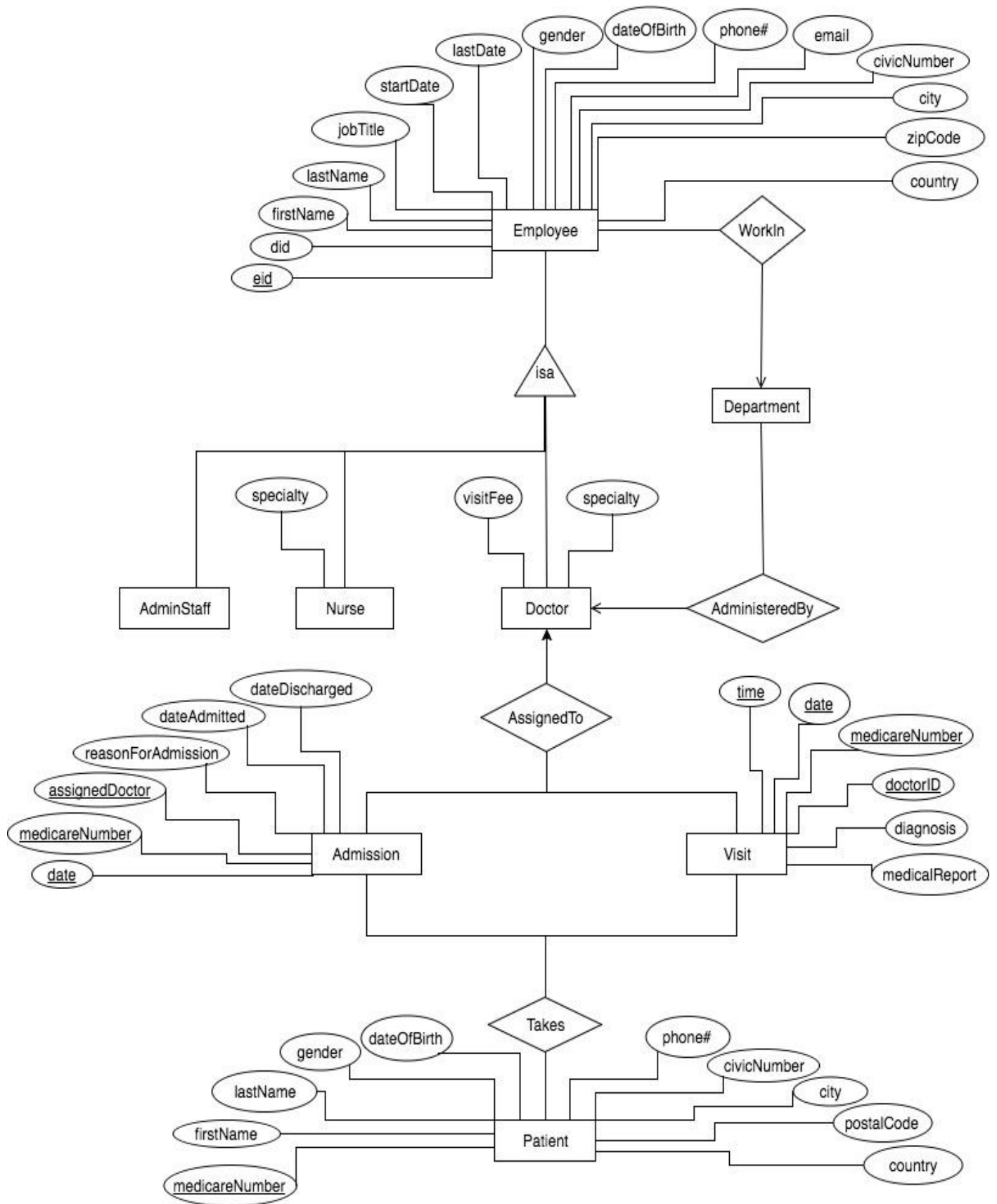
### **Base:**

- Each department will be administrated by a doctor.
- Each department has many doctors, but each doctor work in one department
- Each patient is assigned to a doctor upon his/her visit/admission.
- Different tests may be required for a single patient.

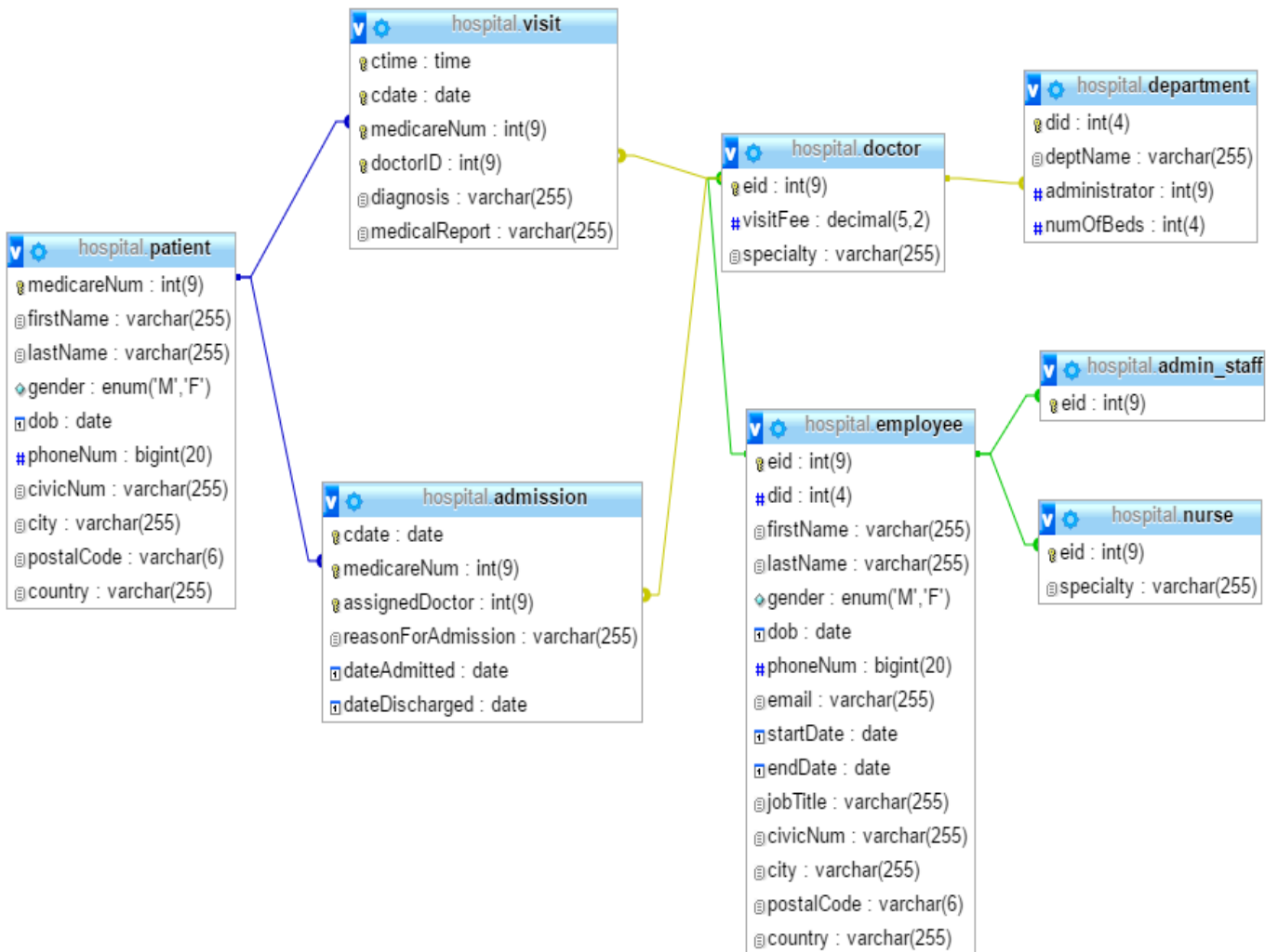
### **Extended:**

- A visit constitutes any encounter at the hospital where there is a simple check-up or appointment with a doctor.
- An admission constitutes any encounter at the hospital where a medical procedure or an emergency admission is undertaken. Therefore, having a date of admission and a date of discharge from the hospital.
- A doctor is assigned a patient and a patient is assigned a doctor upon admission or visit to the hospital as indicated by the Medicare number of the patient and the employee ID from the doctor.
- A patient's condition is recorded to his file as Diagnosis for a Visit or Reason for Admission for Admission. The label consists of an indication to the area of examination.
- Each Doctors, Nurses and Administration staff works in a single department. Doctors and Nurses have specialties but only Doctors charge a fee to the patient.
- A medical report is a solution or conclusion to the medical diagnosis given in a visit.

## E/R Diagram



## Relational Schema



## Tables and Attributes

### **Table Employee**

```
DROP TABLE IF EXIST Employee;
CEATE TABLE Employee (
    eid INT(9) AUTO_INCREMENT PRIMARY KEY,
    did INT(4),
    firstName VARCHAR(255),
    lastName VARCHAR(255),
    gender ENUM('M', 'F'),
    dob DATE,
    phoneNum BIGINT,
    email VARCHAR(255),
    startDate DATE,
    endDate DATE,
    jobTitle VARCHAR(255),
    civicNum VARCHAR(255),
    city VARCHAR(255),
    country VARCHAR(255),
    zipCode VARCHAR(6)
);
```

### **Table Admin\_Staff**

```
DROP TABLE IF EXIST Admin_Staff;
CEATE TABLE Admin_Staff (
    eid INT(9) PRIMARY KEY,
    CONSTRAINT fk_admin FOREIGN KEY (eid) REFERENCES Employee (eid) ON
DELETE CASCADE ON UPDATE CASCADE
);
```

### **Table Doctor**

```
DROP TABLE IF EXIST Doctor;
CEATE TABLE Doctor (
    eid INT(9) PRIMARY KEY,
    visitFee DECIMAL(5,2),
    specialty VARCHAR(255),
    CONSTRAINT fk_doctor FOREIGN KEY (eid) REFERENCES Employee (eid) ON
DELETE CASCADE ON UPDATE CASCADE
);
```

### **Table Nurse**

```
DROP TABLE IF EXIST Nurse;
CEATE TABLE Nurse (
    eid INT(9) PRIMARY KEY,
    visitFee DECIMAL(5,2),
    specialty VARCHAR(255),
    CONSTRAINT fk_nurse FOREIGN KEY (eid) REFERENCES Employee (eid) ON
DELETE CASCADE ON UPDATE CASCADE
);
```

### **Table Department**

```
DROP TABLE IF EXIST Department;
CEATE TABLE Department (
    did INT(4) AUTO_INCREMENT PRIMARY KEY,
    deptName VARCHAR(255),
    administrator INT(9),
    numOfBeds INT(4),
    CONSTRAINT fk_dep FOREIGN KEY (administrator) REFERENCES Doctor(eid)
);
```

### **Table Patient**

```
DROP TABLE IF EXIST Patient;
CEATE TABLE Patient (
    medicareNum INT(9) PRIMARY KEY,
    firstName VARCHAR(255),
    lastName VARCHAR(255),
    gender ENUM('M', 'F'),
    dob DATE,
    phoneNum BIGINT,
    civicNum VARCHAR(255),
    city VARCHAR(255),
    postalCode VARCHAR(6),
    country VARCHAR(255)
);
```

### **Table Admission**

```
DROP TABLE IF EXIST Admission;
CEATE TABLE Admission (
    cdate DATE,
    medicareNum INT(9),
    assignedDoctor INT(9),
    reasonForAdmission VARCHAR(255),
    dateAdmitted DATE,
    dateDischarged DATE,
    PRIMARY KEY (cdate, medicareNum, assignedDoctor),
    FOREIGN KEY (medicareNum) REFERENCES Patient (medicareNum),
    FOREIGN KEY (assignedDoctor) REFERENCES Doctor (eid)
);
```

### **Table Visit**

```
DROP TABLE IF EXIST Visit;
CEATE TABLE Visit (
    ctime TIME,
    cdate DATE,
    medicareNum INT(9),
    doctorID INT(9),
    diagnosis VARCHAR(255),
    medicalReport VARCHAR(255),
    PRIMARY KEY (ctime, cdate, medicareNum, doctorID),
    FOREIGN KEY (medicareNum) REFERENCES Patient (medicareNum),
    FOREIGN KEY (doctorID) REFERENCES Doctor (eid)
);
```

## Data/Tuples for Each Table

### Employees

INSERT INTO Employee VALUES

(100000001,1001,'Blair','Ryker','M','1972-07-08','5140861984','Blryk@geocities.com','1999-12-21',NULL,'admin','698 Ste. Catherine Ouest','Montreal','Canada','H4I5D9'),  
(100000002,1001,'Cassarrah','Christabelle','F','1965-01-15','5140709832','cachr@info.com','2004-10-12',NULL,'doctor','654 Cork St','Montreal','Canada','H3OE09'),  
(100000003,1002,'Min','Yong','M','1969-12-27','5147491391','min-yong@webmail.com','1998-09-01',NULL,'doctor','1293 White Point Road','Laval','Canada','H6S82K'),  
(100000004,1003,'Julie','Aishah','F','1956-09-12','5144255587','jul\_ais@infoseller.com','2002-12-29',NULL,'doctor','1489 Queens Bay','Montreal','Canada','H3L0D0'),  
(100000005,1002,'Setare','Ahmad','F','1988-02-03','5141055072','setare\_ah@mail.com','1999-06-08',NULL,'admin','1380 René-Lévesque Blvd','Laval','Canada','H5J8D9'),  
(100000006,1001,'Gaspare','Gustavo','M','1984-08-29','5145900449','gasparegu@webmine.com','2012-01-27',NULL,'nurse','1045 Levy','Laval','Canada','H0K9W9'),  
(100000007,1003,'Celia','Berker','F','1985-07-29','5148676343','cel-berker@mail.com','2012-09-30',NULL,'admin','4751 Alaska Hwy','Montreal','Canada','H1M0X9'),  
(100000008,1002,'Umukoro','Mamadou','M','1987-02-15','5148397185','umukoroma@google.com','2013-06-15','2014-05-21','nurse','345 acme','Montreal','Canada','HC9V8S'),  
(100000009,1004,'Tafadzwa','Jengo','F','1975-09-12','5149161816','ta-je@hotmail.com','2003-11-30','2016-09-02','doctor','3777 Sheppard Ave','Longueuil','Canada','J3Y9S8'),  
(100000010,1004,'Gafar','Navid','M','1979-08-29','5148350817','gafar-na@hotmail.com','2010-09-20',NULL,'doctor','4273 Shaughnessy St','Brossard','Canada','J9S7D5'),  
(100000011,1004,'Zaynab','Duha','F','1969-07-29','5148281446','zaynab\_du@google.com','2001-09-27','2015-06-21','admin','410 James Street','Montreal','Canada','H3F7Q6'),  
(100000012,1005,'Shu','Cheng','F','1962-08-05','5141053601','shu-cheng@webmine.com','2013-05-18',NULL,'doctor','4782 Adelaide St','Montreal','Canada','H7G9B6'),  
(100000013,1003,'Pete','Gill','M','1982-03-13','5140759302','petegill@mail.com','2014-09-06',NULL,'nurse','910 43rd Avenue','Montreal','Canada','H6N1R5'),  
(100000014,1005,'Laval','Wayne','F','1960-04-21','5147710149','ca\_wayne@booksmart.com','2002-06-22',NULL,'admin','2827 Ste. Catherine Ouest','Montreal','Canada','H8V8P5'),  
(100000015,1004,'Christine','Joseph','F','1978-03-10','5146015325','christine\_joseph@freewebmail.com','2013-08-07',NULL,'nurse','2415 184th Street','Montreal','Canada','H6B5X6'),  
(100000016,1005,'Dushyant','Indu','M','1964-08-12','5147129864','ppprp@msn.com','2008-10-23',NULL,'nurse','729 Cordova Street','Brossard','Canada','J4Y76S'),



```
(100000017,1005,'Ram','Ist','M','1974-09-21','5148658321','daaafdf@msn.com','2012-02-22',NULL,'doctor','654 Whatevah Street','Montreal','Canada','I8II8I'),
(100000018,1005,'Jam','Pb','M','1924-04-22','5147128795','dfjijkjn@msn.com','2011-11-21',NULL,'doctor','312 Quan Street','Laval','Canada','Y7Y7Y7'),
(100000019,1001,'Ban','Dera','M','1946-09-02','5147127121','hellohola@google.com','2001-05-25',NULL,'doctor','711 Ova Street','WI','Canada','T4TT4T'),
(100000020,1002,'Palo','Marron','M','1966-06-16','5149879864','quero@gmail.com','2005-05-05',NULL,'doctor','812 Ram Street','Montreal','Canada','U7UU7U'),
(100000021,1003,'Quieto','Menor','M','1955-05-15','5144629864','nomas@hotmail.com','2006-06-27',NULL,'doctor','901 Dova Street','Candiac','Canada','B5BB5B'),
(100000022,1003,'Quela','Dilla','M','1974-07-17','5145514522','outlook@outlook.com','1992-12-12',NULL,'doctor','290 Coma Street','Delson','Canada','A2AA4A'),
(100000023,1003,'Esta','Cosa','M','1988-03-28','5147212222','degim@gimal.com','2002-12-22',NULL,'doctor','09 Va Street','LaSalle','Canada','S4Y67S'),
(100000024,1004,'Dejad','Asi','M','1933-03-23','5148795222','mailhot@hotmail.com','2005-10-11',NULL,'doctor','29 Rido Street','HoMa','Canada','H5JU6S'),
(100000025,1001,'Porfa','Vor','M','1987-12-30','5141112222','yareyare@yare.com','2001-09-13',NULL,'doctor','79 Cova Street','Montreal','Canada','H6ND6S');
```

### **Admin\_Staff**

```
INSERT INTO Admin_Staff VALUES
(100000001),
(100000005),
(100000007),
(100000011),
(100000014);
```

### **Doctor**

```
INSERT INTO Doctor VALUES
(100000002, 105.5, "Cardiologist"),
(100000003, 150, "Dermatologist"),
(100000004, 235, "Dialysis"),
(100000009, 150, "General"),
(100000010, 90.5, "General"),
(100000012, 85, "Neurologist"),
(100000017, 230, "Neurologist"),
(100000018, 320, "Neurologist"),
(100000019, 150, "Cardiologist"),
(100000020, 520, "Dermatologist"),
(100000021, 125, "Dialysis"),
(100000022, 185, "Dialysis"),
(100000023, 285, "Dialysis"),
(100000024, 255, "General"),
(100000025, 395, "Cardiologist");
```

## Nurse

```
INSERT INTO Nurse VALUES
(100000006, 100, "Assistant"),
(100000008, 120, "Shots"),
(100000013, 85, "Surgery"),
(100000015, 90, "General"),
(100000016, 95, "General");
```

## Department

```
INSERT INTO Department values
(1001,'Cardiology',100000002,35),
(1002,'Dermatology',100000003,22),
(1003,'Dialysis',100000004,36),
(1004,'Emergency',100000010,58),
(1005,'Neurology',100000012,29);
```

## Patient

```
INSERT INTO Patient VALUES
(823584242,'Shereen','Shahin','F','1996-12-20',5146266787,'782 Silver Springs
Blvd','Quebec','G0Q2V6','Canada'),
(234234234,'Mohammad','Erfan','M','1995-03-17',5149631478,'778 Alness
Street','Longueuil','J7Q4G6','Canada'),
(357334666,'Nur','Adil','F','1937-03-10',5141479632,'3334 Brew Creek
Rd','Montreal','H3S9G7','Canada'),
(235474547,'Cevdet','Ender','M','1997-09-28',5141478520,'771 Nelson
Street','Montreal','H9H2G5','Canada'),
(234745784,'Ju','Xue','F','1985-11-08',5149632580,'2848 Reserve
St','Montreal','H8R7J8','Canada'),
(325784433,'Zhen','Lan','M','1947-10-18',5148520741,'42 Yonge
Street','Montreal','H8B7W2','Canada'),
(958487637,'Emelina','Sabas','F','2006-11-03',5143578521,'4799 St. John
Street','Longueuil','J0Q3X2','Canada'),
(295758499,'Adriana','Macaria','F','1920-11-13',5141793248,'2655 Eglinton
Avenue','Boucherville','J3W5G5','Canada'),
(237395072,'Domingo','Roldan','M','2001-08-04',5142684231,'1648 King George
Hwy','Laval','H4J5R4','Canada'),
(578590838,'Amadeo','Immacolata','M','1955-10-14',5146542891,'2004 St. Paul
Street','Montreal','H6L1Y6','Canada'),
(103947867,'Patrizia','Sebastiana','F','1986-01-02',5143498751,'1949 Parkdale
Ave','Montreal','H6H8A3','Canada'),
(493023836,'Ankita','Aniruddha','F','1985-08-20',5141597532,'3377 Burdett
Avenue','Montreal','H3L3D2','Canada'),
(697978584,'Gebhard','Maximilian','M','1925-10-31',5145461945,'1489 Sunny Glen
Lane','Chateauguay','J8M3I7','Canada'),
(130948743,'Chidiebube','Ayomide','M','2000-11-22',5143164979,'2697 Pearlman
Avenue','Longueuil','J3W3U4','Canada'),
```

(978474737,'Clothilde','Édith','F','1952-03-17',5143416466,'3522 Grant Street','Montreal','H2A7S9','Canada'),  
(746352829,'Bernard','François','M','1976-02-13',5143289554,'3512 Joyce Street','Montreal','H4Z8N6','Canada'),  
(578389397,'Damian','Wilfred','M','1998-08-01',5145626867,'1944 Loving Acres Road','Montreal','H5J1X9','Canada');

## Admission

INSERT INTO Admission VALUES

('2017-01-01',823584242,100000002,'Heart','2017-01-01','2017-01-02'),  
( '2017-01-02',234234234,100000003,'Skin','2017-01-02','2017-01-03'),  
( '2017-01-03',357334666,100000004,'Kidney','2017-01-03','2017-01-04'),  
( '2017-01-04',235474547,100000010,'Examination','2017-01-04','2017-01-05'),  
( '2017-01-05',234745784,100000012,'Brain','2017-01-05','2017-01-06'),  
( '2017-01-06',325784433,100000009,'Heart','2017-01-06','2017-01-07'),  
( '2017-01-07',958487637,100000020,'Skin','2017-01-07','2017-01-08'),  
( '2017-01-08',295758499,100000021,'Kidney','2017-01-08','2017-01-09'),  
( '2017-01-09',237395072,100000024,'Examination','2017-01-09','2017-01-10'),  
( '2017-01-10',578590838,100000017,'Brain','2017-01-10','2017-01-11'),  
( '2017-01-11',103947867,100000025,'Heart','2017-01-11','2017-01-12'),  
( '2017-01-12',493023836,100000020,'Skin','2017-01-12','2017-01-13'),  
( '2017-01-13',697978584,100000022,'Kidney','2017-01-13','2017-01-14'),  
( '2017-01-14',130948743,100000024,'Examination','2017-01-14','2017-01-15'),  
( '2017-01-15',978474737,100000018,'Brain','2017-01-15','2017-01-16'),  
( '2017-01-16',746352829,100000025,'Heart','2017-01-16','2017-01-17'),  
( '2017-01-17',578389397,100000003,'Skin','2017-01-17','2017-01-18');

## Visit

INSERT INTO Visit VALUES

('12:24:55','2017-02-01',823584242,100000003,'Skin','Rash cream'),  
( '10:34:55','2017-03-12',234234234,100000002,'Heart','Surgery needed'),  
( '13:55:24','2017-02-03',357334666,100000009,'Examination','Everything normal'),  
( '12:12:12','2014-04-14',235474547,100000004,'Kidney','More water intake'),  
( '15:24:35','2017-02-05',234745784,100000012,'Brain','Headache pills'),  
( '22:10:32','2017-06-16',325784433,100000020,'Skin','Cream treatment'),  
( '15:15:02','2017-02-07',958487637,100000019,'Heart','Tention Pills'),  
( '23:11:28','2017-08-18',295758499,100000010,'Examination','Referral to Neurology'),  
( '17:30:25','2017-02-09',237395072,100000021,'Kidney','Everything normal'),  
( '20:17:18','2017-11-10',578590838,100000017,'Brain','Tumor'),  
( '18:32:06','2017-02-11',103947867,100000003,'Skin','Hydration'),  
( '02:22:06','2017-04-12',493023836,100000025,'Heart','More exercise'),  
( '11:20:58','2017-02-13',697978584,100000024,'Examination','Referral to Cardiology'),  
( '12:12:21','2017-09-19',130948743,100000022,'Kidney','Kidney failing'),  
( '10:25:01','2017-02-15',978474737,100000018,'Brain','Everything normal'),  
( '18:22:02','2017-03-13',746352829,100000002,'Heart','Surgery needed'),  
( '10:15:42','2015-02-17',578389397,100000002,'Heart','Everything normal'),  
( '11:25:12','2017-12-17',234234234,100000025,'Heart','Everything normal'),  
( '12:54:02','2017-08-27',235474547,100000023,'Kidney','Everything normal'),

('08:15:52','2017-10-10',325784433,100000012,'Brain','Further exams needed'),  
('18:55:17','2017-07-27',295758499,100000003,'Skin','Cram treatment'),  
('10:32:42','2017-05-01',578590838,100000019,'Heart','Everything normal'),  
('21:15:32','2017-06-07',130948743,100000010,'Examination','Everything normal'),  
('20:51:02','2017-12-18',746352829,100000004,'Kidney','Transplant required'),  
('11:11:11','2017-05-15',578389397,100000017,'Brain','Everything normal');

## SQL Queries and Outputs Obtained

1. List the information of all doctors grouped by their departments and specialties.

```
SELECT *
FROM (Employee JOIN Doctor USING(eid))
ORDER BY did,specialty;
```

eid	did <sup>1</sup>	firstName	lastName	gender	dob	phoneNum	email	startDate	endDate	jobTitle	civicNum	city	country	zipCode	visitFee	specialty <sup>2</sup>
100000002	1001	Cassarah	Christabelle	F	1965-01-15	5140709832	cachr@info.com	2004-10-12	NULL	doctor	654 Cork St	Montreal	Canada	H3OE09	105.50	Cardiologist
100000025	1001	Porfa	Vor	M	1987-12-30	5141112222	yareyare@yare.com	2001-09-13	NULL	doctor	79 Cova Street	Montreal	Canada	H6ND6S	395.00	Cardiologist
100000019	1001	Ban	Dera	M	1946-09-02	5147127121	hellohola@google.com	2001-05-25	NULL	doctor	711 Ova Street	WI	Canada	T4TT4T	150.00	Cardiologist
100000003	1002	Min	Yong	M	1969-12-27	5147491391	min-yong@webmail.com	1998-09-01	NULL	doctor	1293 White Point Road	Laval	Canada	H6S82K	150.00	Dermatologist
100000020	1002	Palo	Marron	M	1966-06-16	5149879864	quero@gmail.com	2005-05-05	NULL	doctor	812 Ram Street	Montreal	Canada	U7U0U7U	520.00	Dermatologist
100000022	1003	Quela	Dilla	M	1974-07-17	5145514522	outlook@outlook.com	1992-12-12	NULL	doctor	290 Coma Street	Delson	Canada	A2AA4A	185.00	Dialysis
100000023	1003	Esta	Cosa	M	1988-03-28	5147212222	degim@gimal.com	2002-12-22	NULL	doctor	09 Va Street	LaSalle	Canada	S4Y67S	285.00	Dialysis
100000004	1003	Julie	Aishah	F	1956-09-12	5144255587	jul_ais@infoseller.com	2002-12-29	NULL	doctor	1489 Queens Bay	Montreal	Canada	H3L0D0	235.00	Dialysis
100000021	1003	Quieto	Menor	M	1955-05-15	5144629864	nomas@hotmail.com	2006-06-27	NULL	doctor	901 Dova Street	Candiac	Canada	B5BB5B	125.00	Dialysis
100000010	1004	Gafar	Navid	M	1979-08-29	5148350817	gafar-na@hotmail.com	2010-09-20	NULL	doctor	4273 Shaughnessy St	Brossard	Canada	J9S7D5	90.50	General
100000024	1004	Dejad	Asi	M	1933-03-23	5148795222	mailhot@hotmail.com	2005-10-11	NULL	doctor	29 Rido Street	HoMa	Canada	H5JU6S	255.00	General
100000009	1004	Tafadzwa	Jengo	F	1975-09-12	5149161816	ta-je@hotmail.com	2003-11-30	2016-09-02	doctor	3777 Sheppard Ave	Longueuil	Canada	J3Y9S8	150.00	General
100000012	1005	Shu	Cheng	F	1962-08-05	5141053601	shu-cheng@webmine.com	2013-05-18	NULL	doctor	4782 Adelaide St	Montreal	Canada	H7G9B6	85.00	Neurologist
100000017	1005	Ram	Ist	M	1974-09-21	5148658321	daaafdt@msn.com	2012-02-22	NULL	doctor	654 Whatevah Street	Montreal	Canada	I8I8I	230.00	Neurologist
100000018	1005	Jam	Pb	M	1924-04-22	5147128795	dfjjk@msn.com	2011-11-21	NULL	doctor	312 Quan Street	Laval	Canada	Y7Y7Y7	320.00	Neurologist

2. List information about nurses from Montreal who started since Jan 01, 2012.

```
SELECT *
FROM Employee
WHERE city="Montreal" and Year(startDate) >= 2012 and jobTitle="Nurse";
```

eid	did	firstName	lastName	gender	dob	phoneNum	email	startDate	endDate	jobTitle	civicNum	city	country	zipCode
100000008	1002	Umukoro	Mamadou	M	1987-02-15	5148397185	umukoroma@google.com	2013-06-15	2014-05-21	nurse	345 acme	Montreal	Canada	HC9V8S
100000013	1003	Pete	Gill	M	1982-03-13	5140759302	petegill@mail.com	2014-09-06	NULL	nurse	910 43rd Avenue	Montreal	Canada	H6N1R5
100000015	1004	Christine	Joseph	F	1978-03-10	5146015325	christine_joseph@freewebmail.com	2013-08-07	NULL	nurse	2415 184th Street	Montreal	Canada	H6B5X6

3. Given a patient's Medicare ID, list the Medical Report of that patient.

```
SELECT medicalReport
FROM Visit
WHERE medicareNum= ... ;
```

Example with medicareNum = 746352829.

medicareNum	medicalReport
746352829	Surgery needed
746352829	Transplant required

4. Given a patient's Medicare ID, determine how much s/he has paid for the visits since the beginning of "this" year.

```
SELECT Visit.medicareNum, SUM(Doctor.visitFee) AS TotalPaidThisYear
FROM Doctor
INNER JOIN Visit ON Doctor.eid = Visit.doctorID
WHERE Visit.medicareNum = .... AND YEAR(Visit.cdate) >= 2017
GROUP BY Visit.medicareNum;
```

Example with medicareNum = 746352829.

medicareNum	TotalPaidThisYear
746352829	340.50

5. List heart patients admitted/visited at least twice.

```
SELECT * FROM (Patient JOIN (SELECT medicareNum FROM Admission WHERE
reasonForAdmission='Heart'
UNION ALL
SELECT medicareNum FROM Visit WHERE diagnosis = 'Heart') AS T USING
(medicareNum))
WHERE medicareNum IN (SELECT medicareNum FROM Patient JOIN (SELECT
medicareNum FROM Admission WHERE reasonForAdmission='Heart'
UNION ALL
SELECT medicareNum FROM Visit WHERE diagnosis = 'Heart') AS T USING
(medicareNum) GROUP BY medicareNum HAVING COUNT(medicareNum)>=2) GROUP
BY medicareNum;
```

medicareNum	firstName	lastName	gender	dob	phoneNum	civicNum	city	postalCode	country
234234234	Mohammad	Erfan	M	1995-03-17	5149631478	778 Alness Street	Longueuil	J7Q4G6	Canada
746352829	Bernard	François	M	1976-02-13	5143289554	3512 Joyce Street	Montreal	H4Z8N6	Canada

6. List patient's first name, last name, phone, date admitted, date discharged for all admitted patients grouped by special disease, e.g., Cancer, Heart disease, HIV, SARS, etc.

```
SELECT a.reasonForAdmission,p.firstName, p.lastName, p.phoneNum, a.dateAdmitted,
a.dateDischarged
FROM Patient As p, Admission as a
WHERE a.medicareNum = p.medicareNum
ORDER BY a.reasonForAdmission;
```

reasonForAdmission ▲ 1	firstName	lastName	phoneNum	dateAdmitted	dateDischarged
Brain	Ju	Xue	5149632580	2017-01-05	2017-01-06
Brain	Amadeo	Immacolata	5146542891	2017-01-10	2017-01-11
Brain	Clothilde	Édith	5143416466	2017-01-15	2017-01-16
Examination	Cevdet	Ender	5141478520	2017-01-04	2017-01-05
Examination	Domingo	Roldan	5142684231	2017-01-09	2017-01-10
Examination	Chidiebube	Ayomide	5143164979	2017-01-14	2017-01-15
Heart	Shereen	Shahin	5146266787	2017-01-01	2017-01-02
Heart	Zhen	Lan	5148520741	2017-01-06	2017-01-07
Heart	Patrizia	Sebastiana	5143498751	2017-01-11	2017-01-12
Heart	Bernard	François	5143289554	2017-01-16	2017-01-17
Kidney	Nur	Adil	5141479632	2017-01-03	2017-01-04
Kidney	Adriana	Macaria	5141793248	2017-01-08	2017-01-09
Kidney	Gebhard	Maximilian	5145461945	2017-01-13	2017-01-14
Skin	Mohammad	Erfan	5149631478	2017-01-02	2017-01-03
Skin	Emelina	Sabas	5143578521	2017-01-07	2017-01-08
Skin	Ankita	Aniruddha	5141597532	2017-01-12	2017-01-13
Skin	Damian	Wilfred	5145626867	2017-01-17	2017-01-18

7. Calculate the average age of all patients admitted into the Hospital.

```
SELECT AVG( YEAR(now()) - YEAR(Patient.DOB)) AS ageAverage
FROM Patient, Admission
WHERE Admission.medicareNum = Patient.medicareNum;
```

**ageAverage**  
42.8235