

## Information filled by student:

### Course basic information

Code	Course Name	Credit Hours		
		Lecture	Practice	Total
IS212	قواعد البيانات	2	2	3

### Research Title

(Clinic management system database)

**Student Name:** احمد محمد محمد نورالدين

**Student ID:** 1618120180100333

**Level:**2

**Department :**General

## Table of contents

- ✓ **Clinic Management System Description**
- ✓ **Data Dictionaries about clinic management system**
- ✓ **Relationship Diagram about clinic management system**
- ✓ **Select Statements using Different Functions**
- ✓ **Select Statements using Sub Query**
- ✓ **Select Statements using Count and Group Functions**
- ✓ **Select Statements using Different Joins in system**
- ✓ **Insert, Update and Delete Statement about clinic management system**
- ✓ **References.**
- ✓ **Git-Hub Link.**

## System Description

In this research we will describe that Clinic system is the system which can control all client records, checkup, medicines, doctoring, and equipment and keep client information and create data manually easy. The client, as we know it, contains only one doctor, unlike the large hospital, which has a lot of departments and doctors and nurses. We can track all details of all patients by 5 table depends on the number of diagnosis, complaint, the outcome of the care provided to the client, the medication given to the client, the amount of medication taken by the patient, and the date the client undergoes the test. We can control the patient table with all patient data, client ID, first word, last name, gender, age and address. We confirm the treatment ID list and the treatment individual patient. The table of medicines contains all the medicine records, the medicine ID, the medicine name, the quantity of the medicine if the amount of shareholders you enter in one medications, the solutions to a given, a summary if any disease has this treatments, the closing date if it is the medicine's end date and the last needed deadline if the date you allow this medicine. The table of equipment includes all the documents of the equipment, and the list of equipment includes the equipment Number, the name of the equipment, the date needed and the date of the last break from the equipment.

## Theoretical analysis and discussion

### Features:

- Patients table
- Treatments table
- Check-up table
- Medicines table
- Bill table

### Data Dictionaries

#### 1) Patient table

Filed	Type	Detailing	Example
<b>patientId</b>	int	Number of patient. This is a primary key	300
<b>First_name</b>	varchar	First name of patient	Omar
<b>Last_name</b>	varchar	last name of patient	Mohamed
<b>type</b>	varchar	Gender	male
<b>age</b>	int	Age	30
<b>address</b>	varchar	Address of patient	Alex

#### 2) Treatments table

Filed	Type	Detailing	Example
<b>treatId</b>	int	Number of treat. This is a primary key	50
<b>TreatType</b>	varchar	Type of treatment for patient	Need a breath

### 3) Check-up table

Filed	Type	Detailing	Example
<b>CheckId</b>	int	number for a checkup This is a primary key	15
<b>patientId</b>	int	number for a patient	300
<b>findings</b>	varchar	Complains of patient	Find id 300
<b>complains</b>	varchar	Complains of patient	I feel seek
<b>treatId</b>	int	Unique for type Treatment	60
<b>medId</b>	int	Number for medicine	50201
<b>NumberOfItem</b>	int	Quantity of medicine	7
<b>date</b>	datetime	date of operation	2-5-2019

### 4) Medicines table

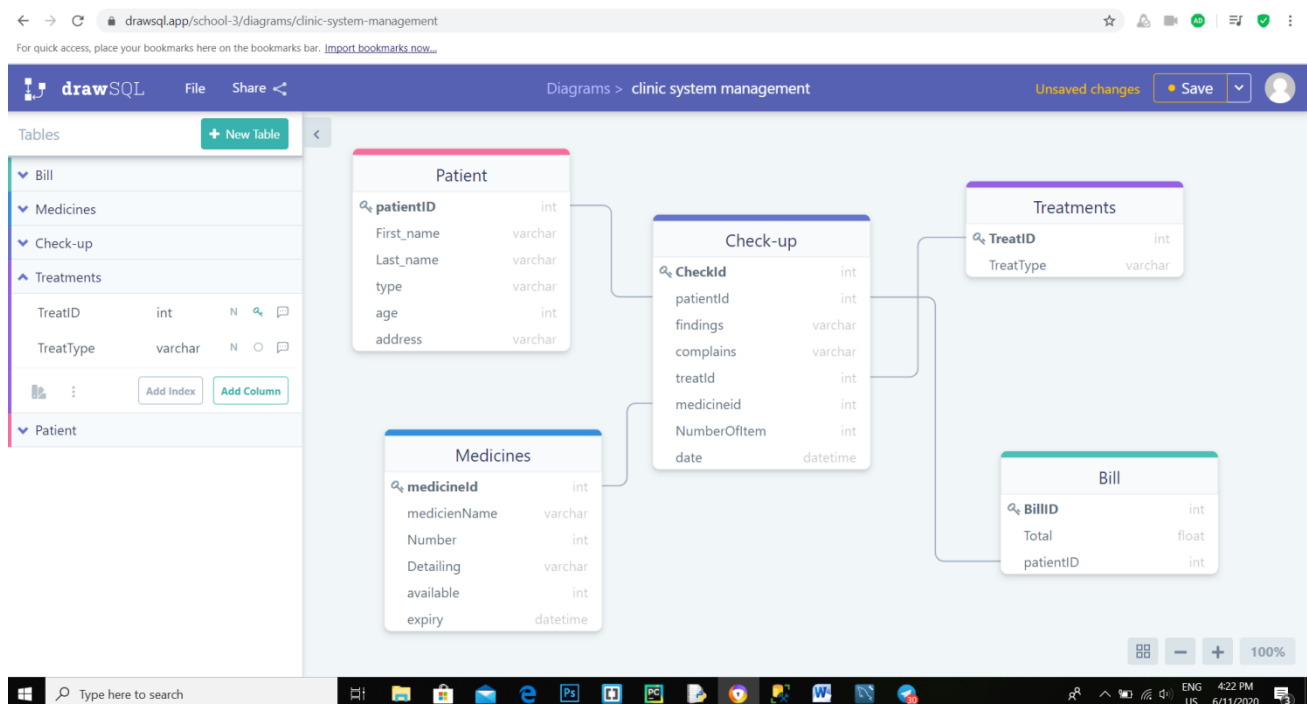
Filed	Type	Detailing	Example
<b>medicineId</b>	int	Unique number. This is a primary key	8870
<b>medicienName</b>	varchar	Name of product	ASPIRIN
<b>Number</b>	int	Number of product	3
<b>Detailing</b>	varchar	Detailing of product	Number of take
<b>available</b>	int	Available product	50
<b>expiry</b>	datetime	Expiry date of product	20-6-2030

## 5) Bill table

Filed	Type	Detailing	Example
<b>BillID</b>	int	Unique number for bill. This is a primary key	555
<b>Toatal</b>	float	Price of service	650.0
patientId	int	number of patient	300

## Entity Relationship Diagram

This is diagram for Clinic management system with relations between 5 tables in data base.



## Select Statements using Different Functions:

- 1) We need to know people their age greater than 17 year in patient table?

**SELECT \* FROM clinic.patient where age>17;**

- 2) We need to know people their age less than 20 year in patient table?

**SELECT \* FROM clinic.patient where age <20;**

- 3) We need to know who is people have ID less than 4 in patient table?

**SELECT \* FROM clinic.patient where patientID <4;**

- 4) We need to know number of treatment in treatments table?

**SELECT count(treatType) FROM clinic.treatments;**

- 5) We need to show all item in bill table?

**SELECT \* FROM clinic.bill;**

- 6) We need to collect all money in bill table?

**SELECT sum(total) FROM clinic.bill;**

- 7) We need to know people they paid more than 500 in bill table?

**SELECT \* FROM clinic.bill where total>500;**

- 8) We need to know less one pay in bill table?

**SELECT min(total) FROM clinic.bill;**

- 9) We need to know people have number of item less than 7 in check-up table?

**SELECT \* FROM clinic.checkup where NumberOfItem<7;**

- 10) We need to see check-up have id less than 4 in check-up table?

**SELECT \* FROM clinic.checkup where checkID<4;**

- 11) We need to show all item in check-up table?

**SELECT \* FROM clinic.checkup;**

- 12) We need to count number of people have number of item more than 4 in check up table?

**SELECT count(\*) FROM clinic.checkup where NumberOfItem>4;**

- 13) We need to count people have age more than 20 year in patient table?

**SELECT count(\*) FROM clinic.patient where age>20;**

- 14) We need to know the old one in patient table?

**SELECT\*, max(age) FROM clinic.patient;**

15) We need to know the young one in patient table?

**SELECT \*, max(age) FROM clinic.patient;**

16) We need to know the average age about our patient in patient table?

**SELECT avg(age) FROM clinic.patient;**

17) We need know the high price ever paid in bill table?

**SELECT max(total) FROM clinic.bill;**

18) We need to know the less available medicine in medicine table?

**SELECT \*, min(available) FROM clinic.medicines;**

19) We need to know the high available medicine in medicine table?

**SELECT \*, max(available) FROM clinic.medicines;**

20) We need to sum all medicine in medicine table?

**SELECT sum(available) FROM clinic.medicines;**

## Select Statements using Sub Query

1) We need know people have more than 19 year old what they paid in bill table?

**SELECT \* FROM clinic.bill where BillID in (SELECT patientID FROM clinic.patient where age>19);**

2) We need show check that had created after year 2018 in check-up table?

**SELECT \* FROM clinic.checkup where patientId in (select patientId from clinic.`check-up` where date>"2018-1-1" );**

3) We need to know people that take number of item more than 5 in check-up table?

**select \* FROM clinic.checkup where patientId in (select patientId from clinic.checkup where NumberOfItem>5 );**

## Select Statements using Count and Group Functions:

1) We need to count people have age more than 20 year in patient table?

**SELECT count(\*) FROM clinic.patient where age>20;**

2) We use group function in check-up table?

```
select patientId, sum(NumberOfItem) FROM clinic.checkup group by patientId;
```

### Select Statements using Different Joins:

1) We need to add all details from patient table to bill table?

```
SELECT * FROM bill left join patient on bill.patientID=patient.patientID where  
BillID=1;
```

2) We need to add all details from patient table to bill table and hid UN useful things?

```
SELECT * FROM bill inner join patient on bill.patientID=patient.patientID;
```

3) We need join check-up table to medicine table by left join?

```
SELECT * FROM medicines left join checkup on  
medicines.medicinID=checkup.medicinrId;
```

4) We need join check-up table to medicine table by inner join?

```
SELECT * FROM medicines inner join checkup on  
medicines.medicinID=checkup.medicinrId;
```

5) We need to join check-up to treatment table by left join?

```
SELECT * FROM treatments left join checkup on  
treatments.treatmentID=checkup.treatmentID;
```

### Insert Statement:

1) We need to add raw to patient table?

```
INSERT INTO `clinic`.`patient` (`patientID`, `First_name`, `last_name`, `type`, `age`,  
`address`) VALUES ('7', 'ahmed', 'mohamed', 'male', '19', 'alex');
```

2) We need to add raw to treatment table?

```
INSERT INTO `clinic`.`treatments` (`treatmentID`, `treatType`) VALUES ('6', 'leg');
```



3) We need to add raw to medicine table?

```
INSERT INTO `clinic`.`medicines` (`medicinID`, `medicineName`, `Number`, `Detailing`,  
`available`, `expiry`) VALUES ('6', 'aspren2', '7', 'help', '100', '2030-1-1');
```

4) We need to add raw to check-up table?

```
INSERT INTO `clinic`.`checkup` (`checkID`, `patientId`, `findings`, `complainsI`, `treatId`,  
`medicineId`, `NumberOfItem`, `date`) VALUES ('6', '6', 'id180', 'breath', '7', '600', '5', '200-1-  
5');
```

5) We need to add raw to bill table?

```
INSERT INTO `clinic`.`bill` (`BillID`, `total`, `patientID`) VALUES ('6', '140', '6');
```

## Update Statement:

1) We need change name of person has id=1?

```
update patient set First_name="hany" where patientID=1
```

2) We need to change treatype of treatmentID=1 in treatment table?

```
update treatments set treatType="leg" where treatmentID=1
```

3) We need change medicine name of ID=1?

```
update medicines set medicineName="aspren3" where medicinID=1
```

4) We need change number of item in id=1?

```
update checkup set NumberOfItem=5 where checkID=1;
```

4) We need change total of ID=1 in bill table?

```
update bill set total=400 where billID=1;
```

## Delete Statement:

- 1) delete from checkup where checkID=1
- 2) delete from patient where patientID=2
- 3) delete from treatments where treatmentID=3
- 4) delete from medicines where medicinID=4
- 5) delete from bill where BillID=5

## Git-Hub Repository Link.

<https://github.com/Ahmed5226/clinic-database>

## Conclusion

In this research I show database table and er diagram and Select Statements using Different Functions and Select Statements using Sub Query and Select Statements using Count and Group Functions and Select Statements using Different Joins and Insert Statement and Update Statement and Delete Statement.

## References

- <https://www.questia.com/library/science-and-technology/computers-and-the-internet/databases>
- <https://pgcc.libguides.com/c.php?g=60038&p=385667>
- <https://www.publicbooks.org/public-books-database/>
- <https://pgcc.libguides.com/c.php?g=60038&p=385667>