Data & Information Management

Assignment 7.2C

1. Write SQL statements to create all tables in the final normalized ERD in Task 4.2C.

NURSE TABLE

```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

CREATE TABLE NURSE( NURSE_ID INT PRIMARY KEY, F_NAME VARCHAR(50) NOT NULL, L_NAME VARCHAR(50) NOT NULL, PHONE_NUMBER INT(10) NOT NULL, EMAIL VARCHAR(100) );
```

DOCTOR TABLE

```
✓ MySQL returned an empty result set (i.e. zero rows) (Query took 0.0004 seconds.)

CREATE TABLE DOCTOR ( DOCTOR_ID INT PRIMARY KEY, F_NAME VARCHAR(50) NOT NULL, L_NAME VARCHAR(50) NOT NULL, PHONR_NUMBER INT(10) NOT NULL, SPECILIZED_AREA VARCHAR(50) NOT NULL, EMAIL VARCHAR(100) );
```

PATIENT TABLE

```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

CREATE TABLE PATIENT ( PATIENT_NUM INT PRIMARY KEY, F_NAME VARCHAR(50) NOT NULL, L_NAME VARCHAR(50) NOT NULL, DOB VARCHAR(10) NOT NULL, GENDER VARCHAR(6), PHONE_NUMBER INT(10) NOT NULL, ADDRESS VARCHAR(200) );
```

APPOINTMENT_LINK TABLE

```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

CREATE TABLE APPOINTMENT_LINK ( APPOINMENT_DI INT NOT NULL, PATIENT_NUM INT NOT NULL, DOCTOR_DI INT NOT NULL, NURSE_ID INT NOT NULL, RECORD_ID INT NOT NULL, PRIMARY KEY(APPOINMENT_ID, PRIMARY KEY(APPOINMENT_ID), FOREIGN KEY(PATIENT_NUM), FOREIGN KEY(PATIENT_NUM), FOREIGN KEY(DOCTOR_ID) REFERENCES appointment_details(APPOINMENT_ID), FOREIGN KEY(PATIENT_NUM) REFERENCES patient(PATIENT_NUM), FOREIGN KEY(DOCTOR_ID) REFERENCES doctor(DOCTOR_ID), FOREIGN KEY(NURSE_ID), FOREIGN KEY(PATIENT_NUM), FOREIGN KEY(DOCTOR_ID) REFERENCES doctor(DOCTOR_ID), FOREIGN KEY(NURSE_ID), FOREIGN KEY(PATIENT_NUM), FOREIGN KEY(DOCTOR_ID), FOREIGN KEY(DOCTOR_ID), FOREIGN KEY(PATIENT_NUM), FOREIGN KEY(PATIENT_NUM), FOREIGN KEY(DOCTOR_ID), FOREIGN KEY(PATIENT_NUM), FOREIGN KEY(PATIENT_NUM), FOREIGN KEY(DOCTOR_ID), FOREIGN KEY(PATIENT_NUM), FOREIGN KEY(PATIENT_
```

APPOINTMENT_DETAILS TABLE

```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0004 seconds.)

CREATE TABLE APPOINTMENT_DETAILS ( APPOINTMENT_ID INT PRIMARY KEY, APPOINEMENT_DATE DATE NOT NULL, APPOINTMENT_TIME TIME NOT NULL );
```

MEDICAL RECORD TABLE

```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

CREATE TABLE MEDICAL_RECORD ( RECORD_ID INT PRIMARY KEY, DATE VARCHAR(10) NOT NULL, TREATEMENT VARCHAR(200), DESCRIPTION VARCHAR(500), PATIENT_NUM INT NOT NULL, DOCTOR_ID INT NOT NULL, FOREIGN KEY(PATIENT_NUM) REFERENCES PATIENT(PATIENT_NUM), FOREIGN KEY(DOCTOR_ID) REFERENCES DOCTOR(DOCTOR_ID);
```

LABORATORY_TEST TABLE

```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

CREATE TABLE LABORATORY_TEST ( LAB_NUM INT PRIMARY KEY, TEST_NAME VARCHAR(100), DATE VARCHAR(10), REPORT VARCHAR(1000), RECORD_ID INT NOT NULL, FOREIGN KEY(RECORD_ID) REFERENCES medical_record(RECORD_ID) );
```

PRESCRIPTION TABLE

```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

CREATE TABLE PRESCRIPTION ( PRESCRIPTION_NUM INT PRIMARY KEY, NAME VARCHAR(100), DATE VARCHAR(100), RECORD_ID INT NOT NULL, DRUG_ID INT NOT NULL, FOREIGN KEY(RECORD_ID) REFERENCES medical_record(RECORD_ID), FOREIGN KEY(DRUG_ID) REFERENCES drugs(DRUG_ID));
```

EQUIPMENT TABLE

```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

CREATE TABLE EQUIPMENT ( EQUIPMENT_NUM INT PRIMARY KEY, EQUIPMENT_NAME VARCHAR(100), LAB_NUM INT NOT NULL, COMPANY_ID INT NOT NULL, FOREIGN KEY(LAB_NUM) REFERENCES laboratory_test(LAB_NUM), FOREIGN KEY(COMPANY_ID) REFERENCES medical_company(COMPANY_ID) );
```

DRUGS TABLE

```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

CREATE TABLE DRUGS ( DRUG_ID INT PRIMARY KEY, DRUG_STRENGTH VARCHAR(20), COMPANY_ID INT NOT NULL, FOREIGN KEY(COMPANY_ID) REFERENCES medical_company(COMPANY_ID) );
```

MEDICAL_COMPANY

```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

CREATE TABLE MEDICAL_RECORD ( RECORD_ID INT PRIMARY KEY, DATE VARCHAR(10) NOT NULL, TREATEMENT VARCHAR(200), DESCRIPTION VARCHAR(500), PATIENT_NUM INT NOT NULL, DOCTOR_ID INT NOT NULL, FOREIGN KEY(PATIENT_NUM) REFERENCES PATIENT(PATIENT_NUM), FOREIGN KEY(DOCTOR_ID) REFERENCES DOCTOR(DOCTOR_ID));
```

2. Insert at least FIVE records in each table using SQL.

NURSE RECORD

```
I INSERT INTO `nurse`(`NURSE_ID`, `F_NAME`, `L_NAME`, `PHONE_NUMBER`, `EMAIL`) VALUES ('1', 'sarah', 'silva', '9283765467', 'sarah1@gmail.com');

INSERT INTO `nurse`(`NURSE_ID`, `F_NAME`, `L_NAME`, `PHONE_NUMBER`, `EMAIL`) VALUES ('2', 'lisa', 'jo', '6574898938', 'lisa2@gmail.com');

INSERT INTO `nurse`(`NURSE_ID`, `F_NAME`, `L_NAME`, `PHONE_NUMBER`, `EMAIL`)VALUES ('3', 'nora', 'deen', '657746354', 'azra4@gmail.com');

INSERT INTO `nurse`(`NURSE_ID`, `F_NAME`, `L_NAME`, `PHONE_NUMBER`, `EMAIL`)VALUES ('4', 'azra', 'noor', '6657746354', 'azra4@gmail.com');
                                               → NURSE_ID F_NAME L_NAME PHONE_NUMBER EMAIL
 1 sarah
                                                                                        silva
                                                                                                                     2147483647 sarah1@gmail.com
                                                                                                                     2147483647 lisa2@gmail.com
 2 lisa
■ / Edit 3: Copy  Delete
                                                                                                                     2147483647 nora3@gmail.com
                                                                   3 nora
                                                                                        deen
       / Edit 3. Copy @ Delete
                                                                    4 azra
                                                                                                                     2147483647 azra4@gmail.com

∠ Edit 
→ Copy 

○ Delete

                                                                                                                         91425563 shawdha5@gmail.com
                                                                   5 shawdha shaleem
```

DOCTOR RECORD

```
1 INSERT INTO `doctor`(`DOCTOR_ID`, `F_NAME`, `L_NAME`, `PHONR_NUMBER`, `SPECILIZED_AREA`, `EMAIL`)
   VALUES('1', 'atheef', 'lathif', '0987674452', 'Cardiologists', 'atheef1@gmail.com');
2 INSERT INTO 'doctor'('DOCTOR_ID', 'F_NAME', 'L_NAME', 'PHONR_NUMBER', 'SPECILIZED_AREA', 'EMAIL')
   VALUES('2', 'silva', 'sham', '6755489012', 'Physician', 'silva2@gmail.com');
3 INSERT INTO `doctor`(`DOCTOR_ID`, `F_NAME`, `L_NAME`, `PHONR_NUMBER`, `SPECILIZED_AREA`, `EMAIL`)
VALUES('3', 'pasindhu', 'perera', '0768955436', 'Nephrologists', 'pasindhu3@gmail.com');
4 INSERT INTO `doctor`(`DOCTOR_ID`, `F_NAME`, `L_NAME`, `PHONR_NUMBER`, `SPECILIZED_AREA`, `EMAIL`)
   VALUES('4','ziyad','khan','0776554463','Neurologists','ziyad4@gmail.com');
5 INSERT INTO `doctor`(`DOCTOR_ID`, `F_NAME`, `L_NAME`, `PHONR_NUMBER`, `SPECILIZED_AREA`, `EMAIL`)
   VALUES('5', 'janith', 'rathnayaka', '0867765432', 'Osteopaths', 'janith5@gmail.com');
←T→
                             ▼ DOCTOR_ID F_NAME
                                                       L_NAME PHONR_NUMBER SPECILIZED_AREA
                                                                                                         EMAIL
Edit : Copy  Delete
                                           1 atheef
                                                       lathif
                                                                          987674452 Cardiologists
                                                                                                         atheef1@gmail.com
     2147483647 Physician
                                          2 silva
                                                       sham
                                                                                                         silva2@gmail.com

    ✓ Edit  
    ✓ Copy  
    ✓ Delete

                                                                          768955436 Nephrologists
                                                                                                         pasindhu3@gmail.com
                                          3 pasindhu
                                                       perera
     / Edit 3 Copy @ Delete
                                                                          776554463 Neurologists
                                                                                                         ziyad4@gmail.com
                                          4 ziyad
                                                       khan
    / Edit 3: Copy @ Delete
                                          5 janith
                                                       rathnayaka
                                                                          867765432 Osteopaths
                                                                                                         janith5@gmail.com
```

PATIENT RECORD

✓ Edit
 → Copy
 Opelete

∠ Edit
→ Copy

O Delete

∠ Edit Fi Copy
☐ Delete

```
1 INSERT INTO `patient` (`PATIENT_NUM`, `F_NAME`, `L_NAME`, `DOB`, `GENDER`, `PHONE_NUMBER`, `ADDRESS`) VALUES ('1','amjad','ashraf', '2004-aug-
2| INSERT INTO `patient` (`PATIENT_NUM`, `F_NAME`, `L_NAME`, `DOB`, `GENDER`, `PHONE_NUMBER`, `ADDRESS`) VALUES ('2', 'thenusan', 'sam', '2002-aug
3 INSERT INTO `patient` (`PATIENT_NUM`, `F_NAME`, `L_NAME`, `DOB`, `GENDER`, `PHONE_NUMBER`, `ADDRESS`) VALUES ('3', 'mabrook', 'selvaraj', '2001-
4 INSERT INTO `patient`(`PATIENT_NUM`, `F_NAME`, `L_NAME`, `DOB`, `GENDER`, `PHONE_NUMBER`, `ADDRESS`) VALUES ('4', 'shela','john', '2000-jul- 3',
5 INSERT INTO `patient` (`PATIENT_NUM`, `F_NAME`, `L_NAME`, `DOB`, `GENDER`, `PHONE_NUMBER`, `ADDRESS`) VALUES ('5', 'muadh', 'luthufi', '2002-aug-
                             PATIENT_NUM F_NAME L_NAME DOB
                                                                                 GENDER
                                                                                            PHONE NUMBER ADDRESS
Edit : Copy  Delete
                                             1 amjad
                                                          ashraf
                                                                     2004-aug- 14 M
                                                                                                     776558439 mentalstreet colombo 7

    ✓ Edit  
    → Copy  
    Opelete

                                                                     2002-aug- 2 M
                                                                                                     774563439 bambalapitiya colombo 3
```

2001- sep-26 M

2000-jul- 3 F

2002-aug- 22 M

3 mabrook

4 shela

5 muadh

selvaraj

john

luthufi

786358439 kollupitiya colombo 4

745238439 priyamulla negombo

2147483647 herishon road colombo 9

APPOINTMENT_LINK RECORDS

```
1 INSERT INTO `appointment_link`(`APPOINMENT_ID`, `PATIENT_NUM`, `DOCTOR_ID`, `NURSE_ID`, `RECORD_ID`) VALUES ('1','1','1','1','1');
2 INSERT INTO 'appointment_link' ('APPOINMENT_ID', 'PATIENT_NUM', 'DOCTOR_ID', 'NURSE_ID', 'RECORD_ID') VALUES ('2','2','2','2');
3 INSERT INTO 'appointment_link' ('APPOINMENT_ID', 'PATIENT_NUM', 'DOCTOR_ID', 'NURSE_ID', 'RECORD_ID') VALUES ('3','3','3','3','3');
←T→

    APPOINMENT ID

                                               PATIENT_NUM DOCTOR_ID
                                                                           NURSE_ID
                                                                                       RECORD ID
     / Edit 3: Copy @ Delete
     / Edit 3: Copy @ Delete
                                                                                                   3
                                                                          3
     / Edit 1 Copy  Delete

    ✓ Edit 
    → Copy 

    Opelete

     / Edit 1 Copy 🔵 Delete
       Check all
                      With selected: 

Edit
                                              3 Copy
                                                          Delete
```

APPOINTMENT_DETAILS RECORDS

```
INSERT INTO `appointment_details` (`APPOINTMENT_ID`, `APPOINEMENT_DATE`, `APPOINTMENT_TIME`) VALUES ('1','2023-01-20','08:00');
INSERT INTO `appointment_details` (`APPOINTMENT_ID`, `APPOINEMENT_DATE`, `APPOINTMENT_TIME`) VALUES ('2','2023-02-12','09:30');
INSERT INTO `appointment_details` (`APPOINTMENT_ID`, `APPOINEMENT_DATE`, `APPOINTMENT_TIME`) VALUES ('3','2023-01-10','11:20');
INSERT INTO `appointment_details` (`APPOINTMENT_ID`, `APPOINEMENT_DATE`, `APPOINTMENT_TIME`) VALUES ('4','2023-01-11','10:11');
INSERT INTO `appointment_details` (`APPOINTMENT_ID`, `APPOINEMENT_DATE`, `APPOINTMENT_TIME`) VALUES ('5','2023-02-21','13:10');
```



MEDICAL_RECORD

```
INSERT INTO 'medical_record'('RECORD_ID', 'DATE', 'TREATEMENT', 'DESCRIPTION', 'PATIENT_NUM', 'DOCTOR_ID') VALUES ('1','2023-jan-3','heart
attack', 'full body check up needed and a open heart surgeory','1','1');
2 INSERT INTO `medical_necord'(`RECORD_ID', `DATE', `TREATEMENT', `DESCRIPTION', `PATIENT_NUM', `DOCTOR_ID') VALUES ('2','2023-feb-1','check
up','routine checkups and screening tests','2','2');

3 INSERT INTO `medical_record'(`RECORD_ID', `DATE', `TREATEMENT', `DESCRIPTION', `PATIENT_NUM', `DOCTOR_ID') VALUES ('3','2023-jan-3','kidney
5 INSERT INTO `medical_record`(`RECORD_ID`, `DATE`, `TREATEMENT`, `DESCRIPTION`, `PATIENT_NUM`, `DOCTOR_ID`) VALUES ('5','2023-jan-3','back
                            ▼ RECORD_ID DATE
                                                       TREATEMENT DESCRIPTION
                                                                                                                     PATIENT_NUM DOCTOR_ID
1 2023-jan-3 heart attack
                                                                      full body check up needed and a open heart surgeor.
Copy Delete
Delete
                                                                      routine checkups and screening tests
Æ Edit Franciscopy
Delete
                                          3 2023-jan-3 kidney faliour
5 2023-jan-3 back pain
                                                                      exercises and stretch
```

LABORATORY TEST RECORDS

```
1 INSERT INTO `laboratory_test`(`LAB_NUM', `TEST_NAME', `DATE', `REPORT', `RECORD_ID') VALUES ('1', 'CBC', '2023-jan-4', 'WBC:4.8', '1');
2 INSERT INTO `laboratory_test`(`LAB_NUM', `TEST_NAME', `DATE', `REPORT', `RECORD_ID') VALUES ('2', 'urine', '2023-jan-8', 'normal', '3');
3 INSERT INTO `laboratory_test`(`LAB_NUM', `TEST_NAME', `DATE', `REPORT', `RECORD_ID') VALUES ('3', 'blood test', '2023-jan-16', 'type A+', '2');
4 INSERT INTO `laboratory_test`(`LAB_NUM`, `TEST_NAME`, `DATE`, `REPORT`, `RECORD_ID`) VALUES ('4', 'X-RAY', '2023-jan-4', 'born crack', '5');
←T→
                                           LAB_NUM TEST_NAME
                                                                                    DATE
                                                                                                   REPORT
                                                                                                                  RECORD ID
                                                            1 CBC

∠ Edit → Copy 
 Delete

                                                                                    2023-jan-4 WBC:4.8

∠ Edit → Copy 
 Delete

                                                            2 urine
                                                                                    2023-jan-8 normal

    ✓ Edit  
    → Copy  
    Oplete

                                                            3 blood test
                                                                                    2023-jan-1 type A+
        4 X-RAY
                                                                                    2023-jan-4 born crack
                                                            5 MRI

∠ Edit → Copy 
 Delete

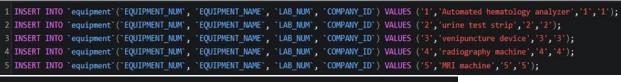
                                                                                    2023-jan-4 cancer
           Check all
                                 3- Copy 

Delete
                                                                                                          Export
```

PRESCRIPTION RECORDS



EQUIPMENT RECORDS



←T→ ·				EQUIPMENT_NUM	EQUIPMENT_NAME	LAB_NUM	COMPANY_ID	
	✓ Edit	3 Сору	Delete		Automated hematology analyzer			
		3 Сору	Delete		urine test strip			
		3 Сору	Delete		venipuncture device			
		3 Сору	Delete		radiography machine			
	/ Edit	3 Сору	Delete		MRI machine			

DRUGS RECORD

```
1 INSERT INTO `drugs`(`DRUG_ID`, `DRUG_STRENGTH`, `COMPANY_ID`) VALUES ('1','300mg','1');
2 INSERT INTO `drugs`(`DRUG_ID`, `DRUG_STRENGTH`, `COMPANY_ID`) VALUES ('2', '150mg', '2');
3 INSERT INTO `drugs`(`DRUG_ID`, `DRUG_STRENGTH`, `COMPANY_ID`) VALUES ('3','10mg','3');
4 INSERT INTO `drugs`(`DRUG_ID`, `DRUG_STRENGTH`, `COMPANY_ID`) VALUES ('4','150mg','4');
5 INSERT INTO `drugs`(`DRUG_ID`, `DRUG_STRENGTH`, `COMPANY_ID`) VALUES ('5','200mg','5');
                         DRUG_ID DRUG_STRENGTH
←T→
                                                     COMPANY ID
                                  1 300mg
Edit : Copy  Delete
                                  2 150mg
Edit 3 Copy  Delete
                                  3 10mg
Edit : Copy  Delete
                                  4 150mg
                                  5 200mg
    / Edit 👫 Copy 🔘 Delete
```

MEDICAL_COMPANY RECORD



- 3. Write and run an SQL statement to add one additional column (attribute) in any one of the existing tables with a default value.
- I am going to add a new column to the PRESCRIPTION table.
- Column name status, data type varchar, default value present.

1 ALTER TABLE prescription ADD status VARCHAR(10) DEFAULT 'present';

← T	· →		V	PRESCRIPTION_NUM		NAME	DATE	RECORD_ID	DRUG_ID	status
	/ Edit	3 Сору	Delete		1	aspirin	2023-jan-3	1	1	present
	/ Edit	3 Сору	Delete		2	vitamin C	2023-feb-1	2	2	present
	/ Edit	3 Сору	Delete		3	ACE inhibitors	2023-jan-3	3	3	present
	/ Edit	3 Сору	Delete		4	primidone	2023-jan-3	4	4	present
	/ Edit	3 Сору	Delete		5	vitamin D	2023-jan-3	5	5	present

- 4. Write and run an SQL statement to update the default value of the newly added column to a different value for certain rows based on a condition using any other column.
- Here the condition is WHERE NAME = 'ACE inhibitors'
- New value for that status column in that matching row 'not present'



- 5. In this section, you are required to write SQL queries to interact with the database you implemented. Answer each SQL question in this section with the following:
- First, you provide what you want to do
- Provide an SQL statement to do what you want to do and provide a screenshot of results after successful execution of the SQL command
- a) Write an SQL query to demonstrate the use of SELECT with INNER JOIN and ORDER BY.
- I am selecting the F_NAME and L_NAME of patient and doctor from patient and doctor table which is assigned with the alias as P and D. joins the patient table to appointment link table (which has a alias as AL) on P. PATIENT_NUM = AL. PATIENT_NUM. then joins the appointment link table on AL.DOCTOR_ID = D.DOCTOR_ID. So, this gives the patient records with the doctor record which they are assigned to for an appointment. Order by is used to arrange it using the patient F_NAME.

✓ Showing rows 0 - 4 (5 total, Query took 0.0003 seconds.) [F_NAME: AMJAD... - THENUSAN...]

SELECT P.F_NAME, P.L_NAME, D.F_NAME, D.L_NAME FROM patient P INNER JOIN appointment_link AL ON P.PATIENT_NUM - AL.PATIENT_NUM INNER JOIN doctor D ON AL.DOCTOR_ID ORDER BY P.F_NAME

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 ∨ Filter rows: Search this table

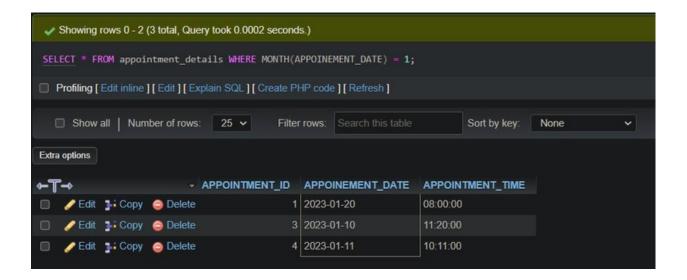
Extra options

F_NAME * 1 L_NAME F_NAME L_NAME amjad ashraf atheef lathif matbrook selvaraj pasindhu perera madh luthufi jainth rathrayaka shela john ziyad khan thenusan sam silva sham

- b) Write an SQL query to demonstrate the use of SELECT with WHERE and IN.
 - This selects all the records from the doctor table where the doctor id is equal to 1,3 and 5.



- c) Write an SQL query to demonstrate the use of at least one DATE function.
- In this it selects all the records from the appointment details table where the month of the appointment is January (1).



- d) Write an SQL statement to create a VIEW using a SELECT statement with a JOIN. Provide the statement to create the VIEW you want and demonstrate the output of the VIEW using 'SELECT * FROM;'.
- Here I created a view table (virtual table) called patient_doctor and has aliases for the column names as patient fname and patient Iname same for the doctor. Then joins the

patient table to the appointment link table on patient_num. and does the same join for doctor on doctor_id. This will create a virtual table with columns patient_fname, patient_lname, doctor_fname and doctor_lnam by including the matching names.

