INSY6112 Exam

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I hereby declare that I did not plagiarise the content of this assignment and that this is my own work.

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Q.3.1

```sql
5    -- Q.3.1
6  ⊖ CREATE TABLE Patient (
7        PatientID int PRIMARY KEY,
8        PatientName varchar(50),
9        PatientSurname varchar(50),
10       PatientDOB DATE
11   );
12
```

Q.3.2

```sql
13   -- Q.3.2
14 ⊖ CREATE TABLE Doctor (
15       DoctorID int PRIMARY KEY,
16       DoctorName varchar(50),
17       DoctorSurname varchar(50)
18   );
19
```

Q.3.3

```sql
20   -- Q.3.3
21 ⊖ CREATE TABLE Appointment (
22       AppointmentID int PRIMARY KEY,
23       PatientID int,
24       FOREIGN KEY (PatientID) REFERENCES Patient(PatientID),
25       DoctorID int,
26       FOREIGN KEY (DoctorID) REFERENCES Doctor(DoctorID),
27       AppointmentDate DATE,
28       AppointmentTime TIME,
29       AppointmentDuration int
30   );
```

Q.3.4

```
32      -- Q.3.4
33 •    INSERT INTO Patient ( PatientID, PatientName, PatientSurname, PatientDOB)
34      VALUES ( 1, 'Debbie', 'Theart', '1980-03-17'),
35             ( 2, 'Thomas', 'Duncan', '1976-08-12');
36
37
38 •    INSERT INTO Doctor ( DoctorID, DoctorName, DoctorSurname )
39      VALUES (1, 'Zintle', 'Nukani'),
40             (2, 'Ravi', 'Maharaj');
41
42 •    INSERT INTO Appointment (AppointmentID, AppointmentDate, AppointmentTime, AppointmentDuration, DoctorID, PatientID)
43      VALUES (1, '2025-01-15', '09:00', 15, 2, 1),
44             (2, '2025-01-18', '15:00', 30, 2, 2),
45             (3, '2025-01-20', '10:00', 15, 1, 1),
46             (4, '2025-01-21', '11:00', 15, 2, 1);
47
```

Q.3.5

```
47
48      -- Q.3.5
49 •    SELECT * FROM Appointment
50      WHERE AppointmentDate >= '2025-01-16' AND AppointmentDate <= '2025-01-20';
51
52      -- Q.3.6
53 •    SELECT  p.PatientName, p.PatientSurname, COUNT(a.AppointmentID) AS TotalAppointments
54      FROM Patient p
55      JOIN Appointment a ON p.PatientID = a.PatientID
```

100% ◇ 75:50

Result Grid ▦ ↕ Filter Rows: 🔍 Search   Edit: 🖉 🏫 🏫-   Export/Import: 🏫 🏫

Appointment...	PatientID	DoctorID	AppointmentD...	AppointmentTi...	AppointmentDurati...
2	2	2	2025-01-18	15:00:00	30
3	1	1	2025-01-20	10:00:00	15
NULL	NULL	NULL	NULL	NULL	NULL

Q.3.6

```
52      -- Q.3.6
53 •    SELECT  p.PatientName, p.PatientSurname, COUNT(a.AppointmentID) AS TotalAppointments
54      FROM Patient p
55      JOIN Appointment a ON p.PatientID = a.PatientID
56      GROUP BY p.PatientName, p.PatientSurname
57      ORDER BY TotalAppointments DESC;
58
```

100% ◇ 33:57

Result Grid ▦ ↕ Filter Rows: 🔍 Search   Export: 🏫

PatientName	PatientSurname	TotalAppointme...
Debbie	Theart	3
Thomas	Duncan	1

Q.3.7

```
59    -- Q.3.7
60 •  CREATE VIEW Doctor2Patients AS
61    SELECT
62        DISTINCT p.PatientName,
63        p.PatientSurname
64    FROM
65        Patient p
66    JOIN
67        Appointment a ON p.PatientID = a.PatientID
68    WHERE
69        a.DoctorID = 2
70    ORDER BY
71        p.PatientSurname ASC;
72
```
100%   ⇕   26:71

Result Grid | ↔ Filter Rows: Q Search   Export: 🗂

PatientName	PatientSurname
Thomas	Duncan
Debbie	Theart

Result 3   • Read Only

Action Output   ⇕

		Time	Action	Response	Duration / Fetch Time
✓	5	15:30:02	CREATE TABLE Appointment (AppointmentID int...	0 row(s) affected	0.032 sec
✓	6	15:30:17	INSERT INTO Patient (PatientID, PatientName, Pa...	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0	0.0055 sec
✓	7	15:30:24	INSERT INTO Doctor (DoctorID, DoctorName, Do...	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0	0.0029 sec
✓	8	15:30:27	INSERT INTO Appointment (AppointmentID, Appo...	4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0	0.0043 sec
✓	9	15:30:32	SELECT * FROM Appointment WHERE Appointme...	2 row(s) returned	0.0013 sec / 0.00001...
✓	10	15:31:50	SELECT p.PatientName, p.PatientSurname, COU...	2 row(s) returned	0.0071 sec / 0.00001...
✓	11	15:33:31	CREATE VIEW Doctor2Patients AS SELECT DIS...	0 row(s) affected	0.013 sec
✓	12	15:33:49	SELECT DISTINCT p.PatientName, p.Patient...	2 row(s) returned	0.0024 sec / 0.00000...

4   QUESTION 4

Q.4.1

```
> use members_st10388340
< switched to db members_st10388340
> db.createCollection("members")
< { ok: 1 }
```

Q.4.2

```
> db.members.insertMany([
    {MemberName: "Debbie", MemberSurname: "Theart", MemberDOB: "1980-03-17"},
    {MemberName: "Thomas", MemberSurname: "Duncan", MemberDOB: "1976-08-12"}
  ])
< {
    acknowledged: true,
    insertedIds: {
      '0': ObjectId('6915ca5fbe3b4eb5572196bf'),
      '1': ObjectId('6915ca5fbe3b4eb5572196c0')
    }
  }
```

Q.4.3

```
db.members.find().pretty()
{
  _id: ObjectId('6915ca5fbe3b4eb5572196bf'),
  MemberName: 'Debbie',
  MemberSurname: 'Theart',
  MemberDOB: '1980-03-17'
}
{
  _id: ObjectId('6915ca5fbe3b4eb5572196c0'),
  MemberName: 'Thomas',
  MemberSurname: 'Duncan',
  MemberDOB: '1976-08-12'
}
```

Q.4.4

```
> db.members.find(
    { MemberDOB: {$gt : "1979-01-12"}}
  )
< {
    _id: ObjectId('6915ca5fbe3b4eb5572196bf'),
    MemberName: 'Debbie',
    MemberSurname: 'Theart',
    MemberDOB: '1980-03-17'
  }
```