

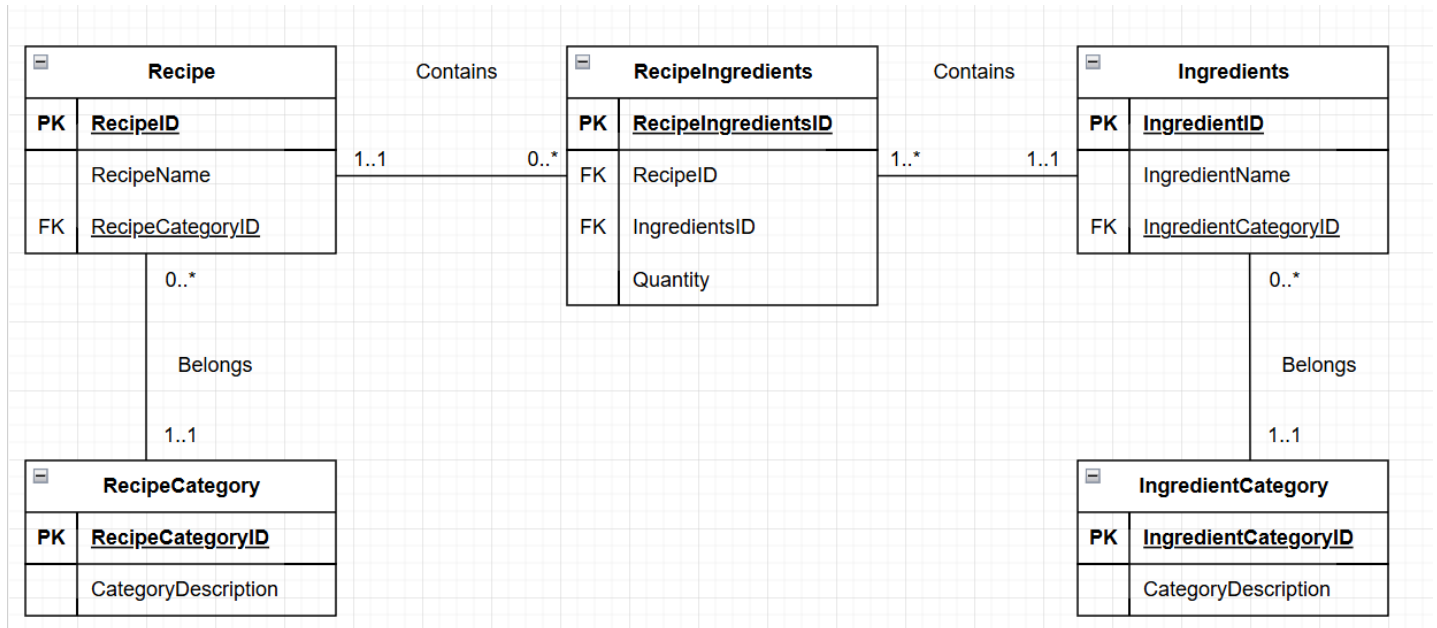
INSY 6112 Exam

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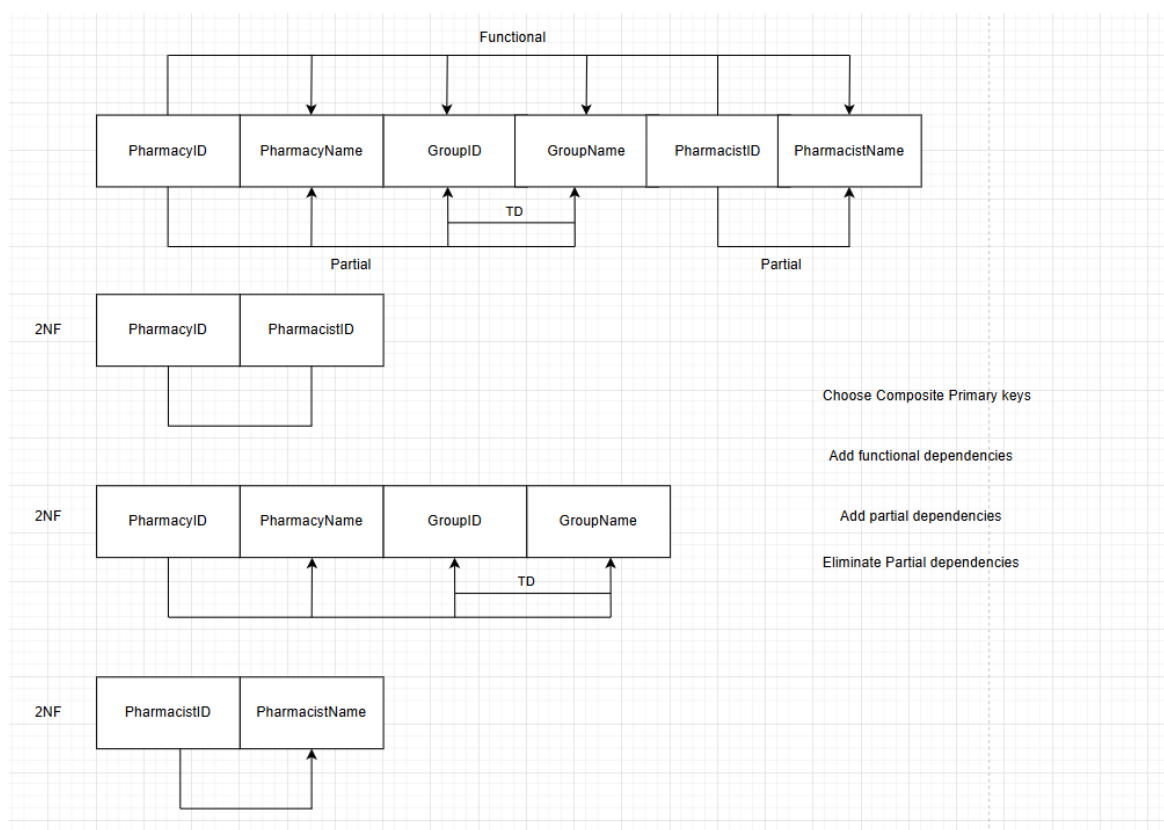
Question 1

ERD

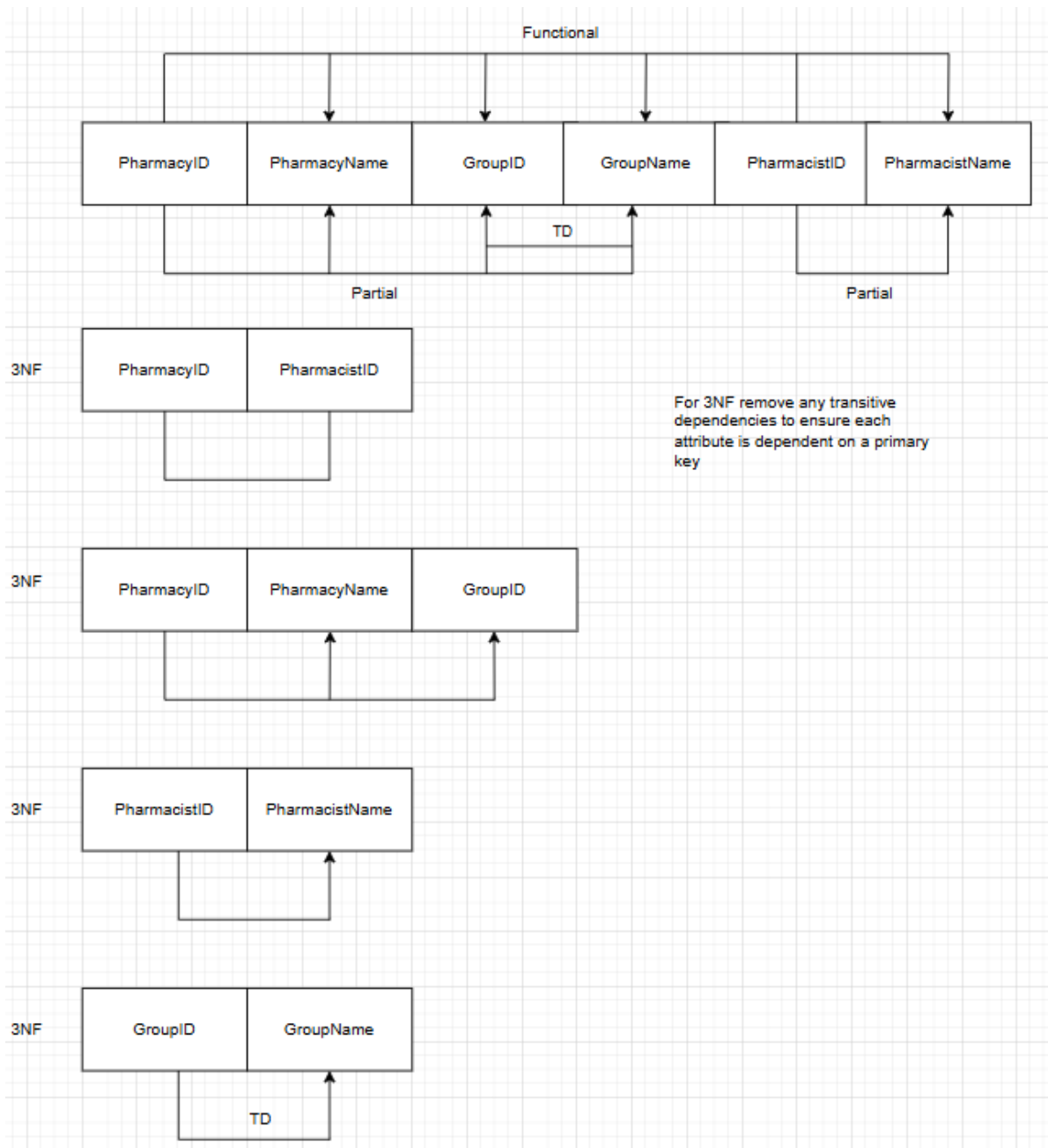


Question 2

Q 2.1



Q 2.2



Question 3

```
1 • CREATE DATABASE CollegeDB;
2 • USE CollegeDB;
3
4 • CREATE TABLE Student (
5     StudentID INT PRIMARY KEY,
6     StudentName VARCHAR(50),
7     StudentSurname VARCHAR(50),
8     StudentNumber VARCHAR(10)
9 );
10
11 • CREATE TABLE Lecturer (
12     LecturerID INT PRIMARY KEY,
13     LecturerName VARCHAR(50),
14     LecturerSurname VARCHAR(50)
15 );
16
17 • CREATE TABLE Tutorial (
18     TutorialID INT PRIMARY KEY,
19     TutorailDate DATE,
20     TutorialTime TIME,
21     TutorialDuration INT,
22     LecturerID INT,
23     StudentID INT,
24     FOREIGN KEY (LecturerID) REFERENCES Lecturer(LecturerID),
25     FOREIGN KEY (StudentID) REFERENCES Student(StudentID)
26 );





1 • INSERT INTO Student (StudentID, StudentName, StudentSurname, StudentNumber) VALUES
2     (1, 'Debbie', 'Theart', '123456'),
3     (2, 'Thomas', 'Duncan', '654321');
4
5 • INSERT INTO Lecturer (LecturerID, LecturerName, LecturerSurname) VALUES
6     (1, 'Zintle', 'Nukani'),
7     (2, 'Ravi', 'Maharaj');
8
9 • INSERT INTO Tutorial (TutorialID, TutorailDate, TutorialTime, TutorailDuration, LecturerID, StudentID) VALUES
10    (1, '2025-01-15', '09:00', 180, 2, 1),
11    (2, '2025-01-18', '15:00', 240, 2, 2),
12    (3, '2025-01-20', '10:00', 180, 1, 1),
13    (4, '2025-01-21', '11:00', 180, 2, 1);
14
15
```

3.5

```

1 • SELECT * FROM Tutorial
2 WHERE TutorailDate BETWEEN '2025-01-16' AND '2025-01-20';
3
4

```



Result Grid						
Filter Rows: <input type="text"/>						
Edit:   						
Export/Import: 						
	TutorialID	StudentID	LecturerID	TutorailDate	TutorialTime	TutorailDuration
▶	2	2	2	2025-01-18	15:00:00	240
	3	1	1	2025-01-20	10:00:00	180
✱	NULL	NULL	NULL	NULL	NULL	NULL

3.6

```

1 • SELECT s.StudentName, s.StudentSurname, COUNT(t.TutorialID) as TotalTutorials
2 FROM Student s
3 LEFT JOIN Tutorial t ON s.StudentID = t.StudentID
4 GROUP BY s.StudentID, s.StudentName, s.StudentSurname
5 ORDER BY TotalTutorials DESC;

```

Result Grid			
Filter Rows: <input type="text"/>			
Export: 			
Wrap Cell Content: 			
	StudentName	StudentSurname	TotalTutorials
▶	Debbie	Theart	3
	Thomas	Duncan	1

3.7

```
1 ● CREATE VIEW StudentLecturer2 AS
2 SELECT DISTINCT s.StudentName, s.StudentSurname
3 FROM Student s
4 JOIN Tutorial t ON s.StudentID = t.StudentID
5 JOIN Lecturer l ON t.LecturerID = l.LecturerID
6 WHERE l.LecturerID = 2
7 ORDER BY s.StudentSurname ASC;
```

Question 4

4.1

```
> use clients_st12345678
< switched to db clients_st12345678
```

4.2

```
> db.clients.insertMany([
  { "Client Name": "Debbie", "Client Surname": "Theart", "Client DOB": ISODate("1980-03-17") },
  { "Client Name": "Thomas", "Client Surname": "Duncan", "Client DOB": ISODate("1976-08-12") }
])
< {
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('6851167a5f852285b2e37526'),
    '1': ObjectId('6851167a5f852285b2e37527')
  }
}
```

4.3

```
> db.clients.find()
< {
  _id: ObjectId('6851167a5f852285b2e37526'),
  'Client Name': 'Debbie',
  'Client Surname': 'Theart',
  'Client DOB': 1980-03-17T00:00:00.000Z
}
{
  _id: ObjectId('6851167a5f852285b2e37527'),
  'Client Name': 'Thomas',
  'Client Surname': 'Duncan',
  'Client DOB': 1976-08-12T00:00:00.000Z
}
```

4.4

```
> db.clients.find({ "Client DOB": { $gt: ISODate("1979-01-12") } })
< {
  _id: ObjectId('6851167a5f852285b2e37526'),
  'Client Name': 'Debbie',
  'Client Surname': 'Theart',
  'Client DOB': 1980-03-17T00:00:00.000Z
}
```