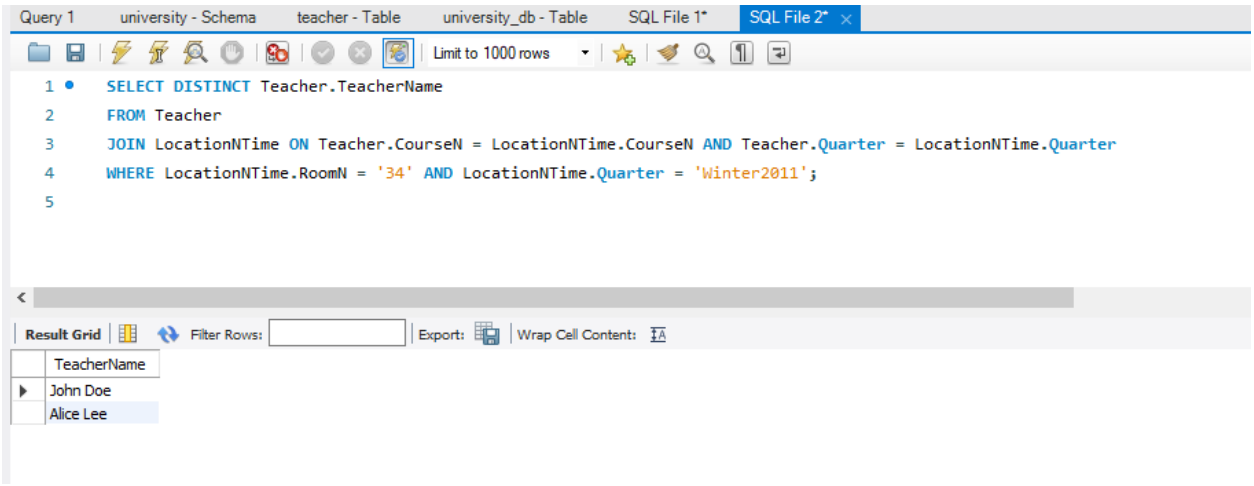
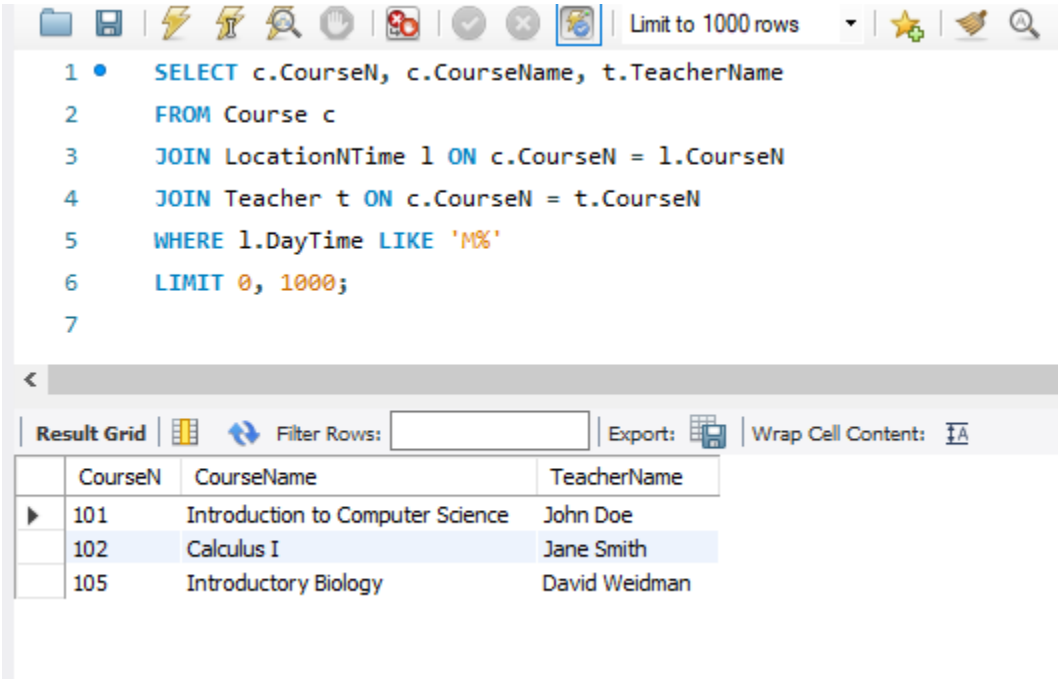
Lab 1

1.


Query 1
university - Schema
teacher - Table
university_db - Table
SQL File 1*
SQL File 2*
Limit to 1000 rows
1 SELECT DISTINCT Teacher.TeacherName
2 FROM Teacher
3 JOIN LocationNTime ON Teacher.CourseN = LocationNTime.CourseN AND Teacher.Quarter = LocationNTime.Quarter
4 WHERE LocationNTime.RoomN = '34' AND LocationNTime.Quarter = 'Winter2011';
5
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
TeacherName
John Doe
Alice Lee

2.


Limit to 1000 rows
1 SELECT c.CourseN, c.CourseName, t.TeacherName
2 FROM Course c
3 JOIN LocationNTime l ON c.CourseN = l.CourseN
4 JOIN Teacher t ON c.CourseN = t.CourseN
5 WHERE l.DayTime LIKE 'M%'
6 LIMIT 0, 1000;
7
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
CourseN
CourseName
TeacherName
101
Introduction to Computer Science
John Doe
102
Calculus I
Jane Smith
105
Introductory Biology
David Weidman

3.

```
1  SELECT DISTINCT t.TeacherName
2  FROM Teacher t
3  JOIN LocationNTime l ON t.CourseN = l.CourseN AND t.Quarter = l.Quarter
4  WHERE l.RoomN = '723';
5
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

TeacherName
Ron Smith

4.

Limit to 1000 rows

```
1  SELECT l.CourseN, l.Quarter, l.RoomN, l.DayTime
2  FROM LocationNTime l
3  INNER JOIN Teacher t ON l.CourseN = t.CourseN AND l.Quarter = t.Quarter
4  WHERE t.TeacherName = 'Karen Reed' AND l.Quarter = 'Spring2005'
5
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

CourseN	Quarter	RoomN	DayTime
102	Spring2005	56	M8:00PM

5.

```
1  SELECT s.CourseN, t.TeacherName
2  FROM Student s
3  JOIN Teacher t ON s.CourseN = t.CourseN AND s.Quarter = t.Quarter
4  WHERE s.StudentName IN ('Ron Smith', 'David Weidman');
5
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

CourseN	TeacherName
105	David Weidman
106	Ron Smith

6.

```
1  SELECT c.CourseN, l.Quarter
2  FROM Course c
3  JOIN LocationNTime l ON c.CourseN = l.CourseN
4  JOIN Teacher t ON c.CourseN = t.CourseN AND l.Quarter = t.Quarter
5  WHERE t.TeacherName = 'Karen Reed' AND l.RoomN = '713';
6
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

CourseN	Quarter
102	Spring2005

7.

```sql
SELECT DISTINCT TeacherName
FROM Teacher
WHERE CourseN IN (
  SELECT CourseN
  FROM Teacher
  GROUP BY CourseN
  HAVING COUNT(DISTINCT Quarter) >= 2
);
```

Result Grid | Filter Rows: | Export: | Wrap Cell C

TeacherName
John Doe

8.

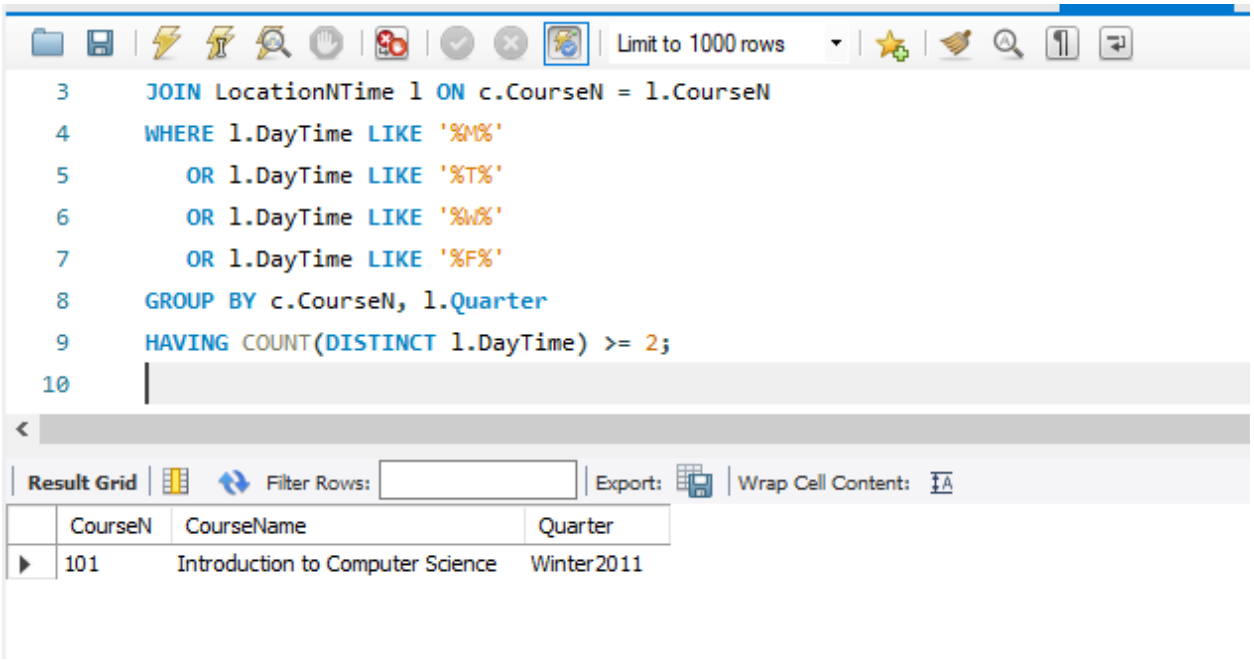
Limit to 1000 rows

```sql
SELECT DISTINCT t1.TeacherName
FROM Teacher t1
INNER JOIN Teacher t2 ON t1.TeacherName = t2.TeacherName AND t1.CourseN <> t2.CourseN
WHERE t1.Quarter <> t2.Quarter
```

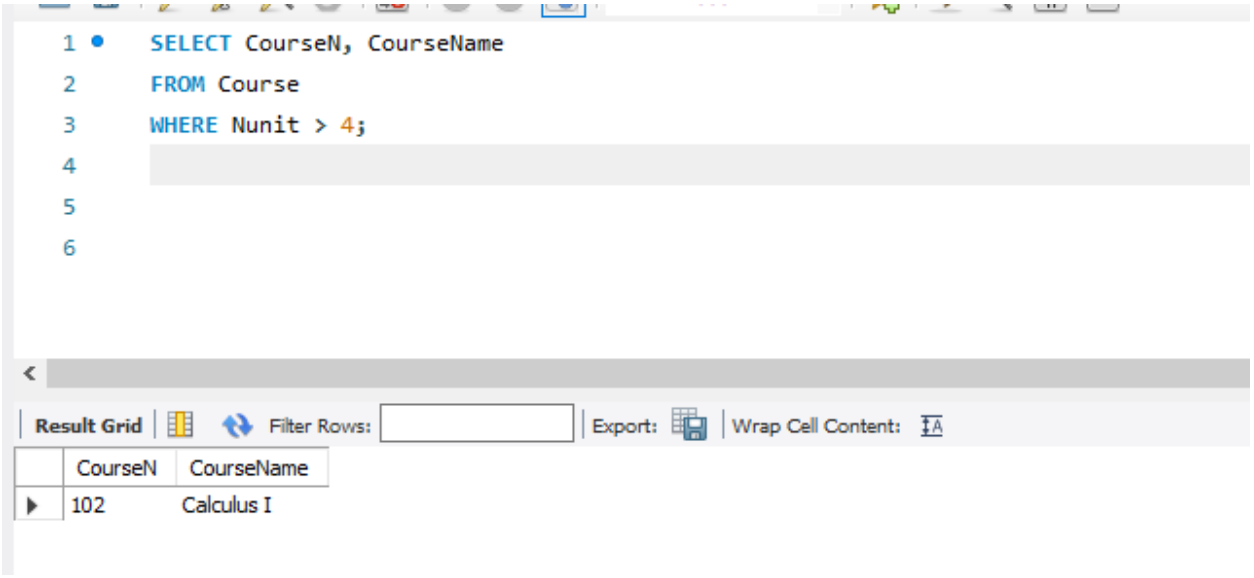
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

TeacherName
John Doe

9.


Limit to 1000 rows
3 JOIN LocationNTime l ON c.CourseN = l.CourseN
4 WHERE l.DayTime LIKE '%M%'
5 OR l.DayTime LIKE '%T%'
6 OR l.DayTime LIKE '%W%'
7 OR l.DayTime LIKE '%F%'
8 GROUP BY c.CourseN, l.Quarter
9 HAVING COUNT(DISTINCT l.DayTime) >= 2;
10
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
CourseN
CourseName
Quarter
101
Introduction to Computer Science
Winter2011

10.


1 SELECT CourseN, CourseName
2 FROM Course
3 WHERE Nunit > 4;
4
5
6
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
CourseN
CourseName
102
Calculus I

11.

```
SELECT s.CourseN, c.CourseName, s.StudentName
FROM Student s
JOIN Course c ON s.CourseN = c.CourseN
GROUP BY s.CourseN, s.StudentName
HAVING COUNT(*) >= 2;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

CourseN	CourseName	StudentName
101	Introduction to Computer Science	John Smith

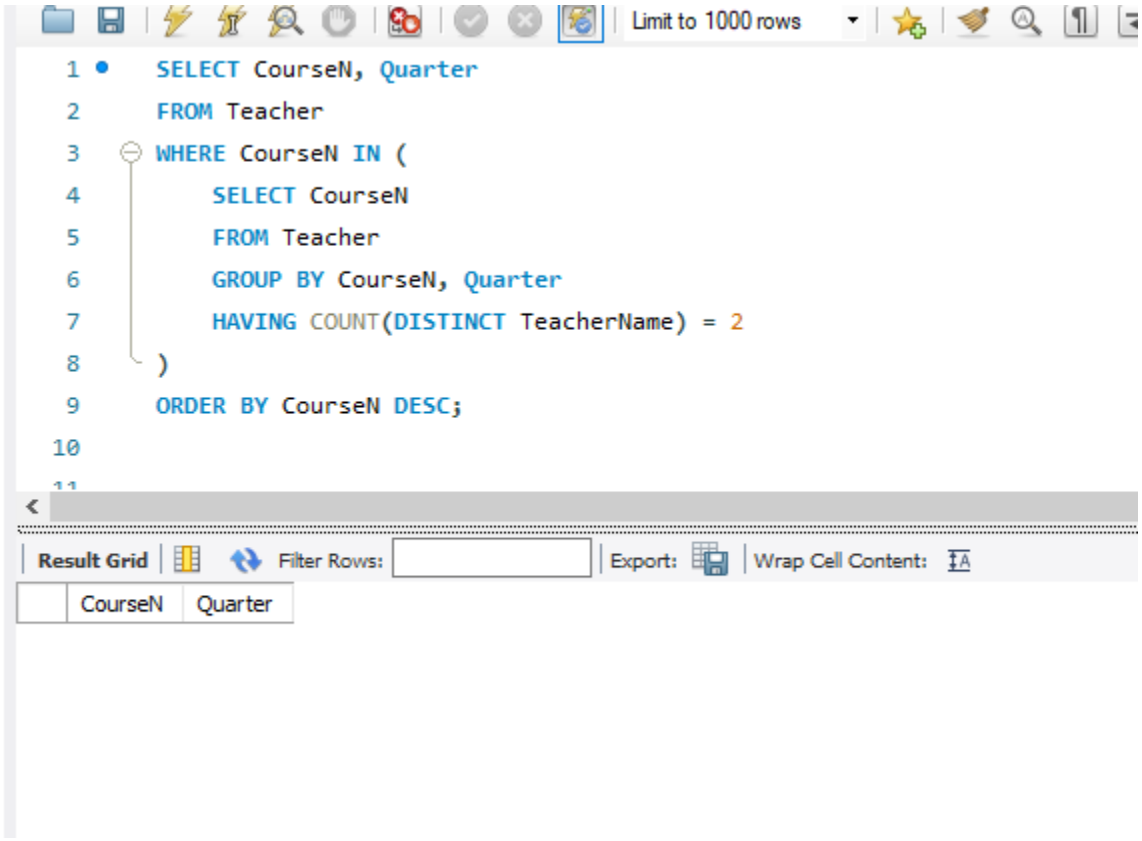
12.

```
SELECT Course.*, Teacher.TeacherName
FROM Course
JOIN LocationNTime ON Course.CourseN = LocationNTime.CourseN
JOIN Teacher ON Course.CourseN = Teacher.CourseN AND LocationNTime.Quarter = Teacher.Quarter
ORDER BY Course.CourseN ASC, Course.CourseName DESC
LIMIT 0, 1000;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

CourseN	CourseName	Nunit	TeacherName
101	Introduction to Computer Science	3	John Doe
101	Introduction to Computer Science	3	John Doe
101	Introduction to Computer Science	3	John Doe
102	Calculus I	5	Karen Reed
104	American History	4	Alice Lee
105	Introductory Biology	3	John Doe
106	Art History	4	Ron Smith

13.



The table I made on Mysql is below

```
DROP DATABASE IF EXISTS university_db;

-- Create the database
CREATE DATABASE university_db;

-- Use the database
USE university_db;

CREATE TABLE Teacher (
  CourseN INT,
  Quarter VARCHAR(20),
  TeacherName VARCHAR(50),
  PRIMARY KEY (CourseN, Quarter)
);

INSERT INTO Teacher (CourseN, Quarter, TeacherName)
```

```
VALUES (101, 'Winter2011', 'John Doe'),
       (102, 'Spring2005', 'Karen Reed'),
       (101, 'Fall2008', 'John Doe'),
       (104, 'Winter2011', 'Alice Lee'),
       (105, 'Fall2008', 'John Doe'),
       (106, 'Winter2011', 'Ron Smith');

CREATE TABLE Course (
  CourseN INT,
  CourseName VARCHAR(50),
  Nunit INT,
  PRIMARY KEY (CourseN)
);

INSERT INTO Course (CourseN, CourseName, Nunit)
VALUES (101, 'Introduction to Computer Science', 3),
       (102, 'Calculus I', 5),
       (103, 'Shakespearean Literature', 3),
       (104, 'American History', 4),
       (105, 'Introductory Biology', 3),
       (106, 'Art History', 4);

CREATE TABLE LocationNTime (
  CourseN INT,
  Quarter VARCHAR(20),
  DayTime VARCHAR(20),
  RoomN VARCHAR(10),
  PRIMARY KEY (CourseN, Quarter, DayTime, RoomN),
  FOREIGN KEY (CourseN, Quarter) REFERENCES Teacher (CourseN, Quarter)
);

INSERT INTO LocationNTime (CourseN, Quarter, DayTime, RoomN)
VALUES (101, 'Winter2011', 'M2:00PM', '34'),
                    (101, 'Winter2011', 'T2:00PM', '34'),
       (102, 'Spring2005', 'M8:00PM', '713'),
       (101, 'Fall2008', 'T4:50PM', '22'),
       (104, 'Winter2011', 'F1:00PM', '34'),
       (105, 'Fall2008', 'M10:00AM', '12'),
       (106, 'Winter2011', 'W9:00AM', '723');

CREATE TABLE Student (
  StudentName VARCHAR(50),
  CourseN INT,
  Quarter VARCHAR(20),
```

```
  PRIMARY KEY (StudentName, CourseN, Quarter),
  FOREIGN KEY (CourseN, Quarter) REFERENCES Teacher (CourseN, Quarter)
);

INSERT INTO Student (StudentName, CourseN, Quarter)
VALUES ('John Smith', 101, 'Winter2011'),
       ('Karen Reed', 102, 'Spring2005'),
       ('John Smith', 101, 'Fall2008'),
       ('Alice Lee', 104, 'Winter2011'),
       ('David Weidman', 105, 'Fall2008'),
       ('Ron Smith', 106, 'Winter2011');
```