Readings:

* Multiple Table Processing: JOINS
  + chapter 7: “Advanced SQL” (Hoffer, Ramesh, & Topi) page 289- 298
  + chapter 6: “Queries: JOIN Operator” (Petkovic) from page 240 -255
* Multiple Table Processing: Subquery
  + chapter 6: “Queries: Correlated Subqueries” (Petkovic) from page 255 to the end of the chapter
  + chapter 7: “Advanced SQL” (Hoffer, Ramesh, & Topi) from page 289 -310

Homework assignment:

* Homework part A
  + Chapter 7(Hoffer, Ramesh, & Topi)
  + Problems and Exercises 1,2,3,4,5
* Homework part B

Use the “sample\_DDL\_script.sql” file from the blackboard to create a sample database named “sample”.  Use a second script file named “sample\_insert\_script.sql” to populate the database with sample data.  Both files can be downloaded from the class blackboard.

Using the database created, answer write the SQL statements for the following questions:

1. Return a list with dept\_no and a count of employees in each department.
2. Return a list with dept\_no and a count of employees in each department. Only show departments with greater than or equal to 2 employees
3. Find the highest employee number.
4. What is the difference between COUNT(\*) and COUNT(column)? Write a SQL Example
5. Get the project\_no that are done by more than 1 employee.

**Homework part A**

1.  
a) **SELECT** COURSEID, COURSENAME

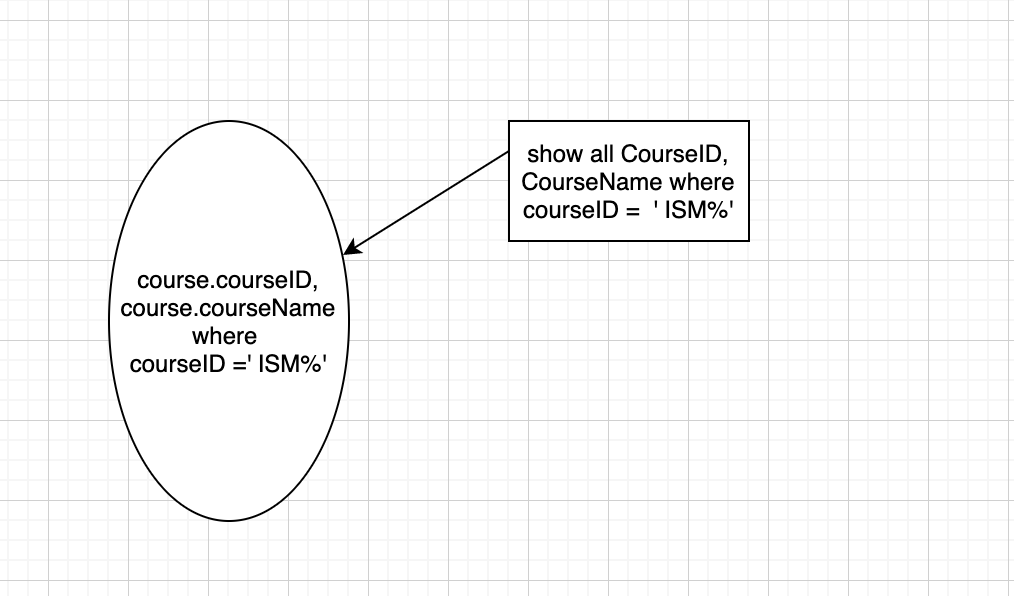
**FROM** COURSE

**WHERE** COURSEID **LIKE** 'ISM%';

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Venn Diagram :



b)

**SELECT** FACULTYNAME, COURSE.COURSEID, COURSENAME

**FROM** FACULTY, COURSE, QUALIFIED

**WHERE** QUALIFIED.FACULTYID = 3467

**AND** FACULTY.FACULTYID= QUALIFIED.FACULTYID

**AND** COURSE.COURSEID=QUALIFIED.COURSEID;

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Venn Diagram:

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c)

**SELECT** s.STUDENTNAME, s.StudentID , s2.CourseID , r.sectionno, r.semester

**FROM** Student s , Faculty f , COURSE c , [SECTION] s2 , REGISTRATION r

**WHERE** S2.SectionNo = r.SectionNo

**AND** s.StudentID =r.StudentID

**AND** r.SectionNo = 2714

**AND** s2.Semester = 'I-2008'

**AND** r.Semester = 'I-2008'

**ORDER** **BY** StudentName;

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2)

**SELECT** F.FACULTYNAME , c.COURSENAME

**FROM** QUALIFIED q ,Faculty f , COURSE c

**WHERE** q.FacultyID = f.FacultyID

**AND** q.CourseID = c.CourseID

**AND** q.CourseID = 'ISM 3113';

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3)

**SELECT** F.FACULTYNAME , c.COURSENAME

**FROM** QUALIFIED q ,Faculty f , COURSE c

**WHERE** q.FacultyID = f.FacultyID

**AND** q.CourseID = c.CourseID

**AND** q.CourseID = 'ISM 3113'

**AND** q.CourseID <> 'ISM 4930';

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4)

a)

**SELECT** **COUNT**(**DISTINCT** STUDENTID) **AS** TOTALSTUDENTS

**FROM** REGISTRATION

**WHERE** SectionNo = 2714

**AND** Semester ='I-2008'

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b)

**SELECT** **COUNT** (**DISTINCT** (StudentID)) **AS** TOTALSTUDENTS

**FROM** [SECTION], REGISTRATION

**WHERE** [SECTION].SectionNO = REGISTRATION.SectionNo

**AND** [SECTION].CourseID = 'ISM 3113'

**AND** [SECTION].Semester = 'I-2008';

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5)

**Select** STUDENT.StudentID, STUDENT.StudentName **from**

STUDENT **Where** **NOT** **EXISTS**

(

**SELECT** \* **FROM** REGISTRATION

**WHERE** REGISTRATION.StudentID = STUDENT.StudentID

**AND** REGISTRATION.Semester = 'I-2008')

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**Homework part B**1. Return a list with dept\_no and a count of employees in each department.

**select** e.dept\_no , **count**(**DISTINCT** e.emp\_no) **as** Employee\_Count

**FROM** employee e , subdivision s

**WHERE** s.dept\_no = e.dept\_no

**group** **by** e.dept\_no

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2. Return a list with dept\_no and a count of employees in each department. Only show departments with greater than or equal to 2 employees

**SELECT** s.dept\_no **from** subdivision s

**WHERE** (**SELECT** **count**(**DISTINCT** e.emp\_no )**as** employee\_count **from** employee e **WHERE** s.dept\_no = e.dept\_no **group** **by** e.dept\_no ) >= 2

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**Another Method:**

**select** e.dept\_no, **count**(\*) **as** employee\_count

**from** employee e

**group** **by** e.dept\_no

**HAVING** **COUNT**(\*) >= 2

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**3 .** Find the highest employee number.

**select** **max**(emp\_no) **as** Highest\_EmployeeNumber

**FROM** employee

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4. What is the difference between COUNT(\*) and COUNT(column)? Write a SQL Example

**COUNT (\*) EXAMPLE :**

**select** **count**(\*) **from** employee

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**TOTAL ROWS :**

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**COUNT(Column) : EXAMPLE :**

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**Count(\*) : gives total count of the rows in a table**

**Count (distinct Column) : gives total count of unique values for that particular column in a table.**

5.

Get the project\_no that are done by more than 1 employee.

**SELECT** project\_no, **COUNT**(\*) **as** employee\_count

**FROM** works\_on

**GROUP** **BY** project\_no

**HAVING** **COUNT**(\*)>1

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