Homework week 6 Chapter 6

1.

CREATE TABLE Student\_T

(StudentID NUMBER NOT NULL,

StudentName VARCHAR2(25),

CONSTRAINT Student\_PK PRIMARY KEY (StudentID));

CREATE TABLE Faculty\_T

(FacultyID NUMBER NOT NULL,

FacultyName VARCHAR2(25),

CONSTRAINT Faculty\_PK PRIMARY KEY (FacultyID));

CREATE TABLE Course\_T

(CourseID CHAR(8) NOT NULL,

CourseName VARCHAR2(15),

CONSTRAINT Course\_PK PRIMARY KEY (CourseID));

CREATE TABLE Section\_T

(SectionNo NUMBER NOT NULL,

Semester CHAR(7) NOT NULL,

CourseID CHAR(8),

CONSTRAINT Section\_PK

PRIMARY KEY(CourseID, SectionNo, Semester),

CONSTRAINT Section\_FK FOREIGN KEY (CourseID)

REFERENCES Course\_T (CourseID));

CREATE TABLE Qualified

(FacultyID NUMBER NOT NULL ,

CourseID CHAR(8) NOT NULL,

DateQualified DATE,

CONSTRAINT IsQualified\_PK PRIMARY KEY (FacultyID,

CourseID),

CONSTRAINT QualifiedFaculty\_FK FOREIGN KEY (FacultyID) REFERENCES Faculty\_T (FacultyID),

CONSTRAINT QualifiedCourse\_FK FOREIGN KEY (CourseID) REFERENCES Course\_T (CourseID));

CREATE TABLE Registration\_T

(StudentID NUMBER NOT NULL,

SectionNo NUMBER NOT NULL,

Semester CHAR(7) NOT NULL,

CONSTRAINT IsRegistered\_PK PRIMARY KEY (StudentID,

SectionNo, Semester),

CONSTRAINT StudentIsRegistered\_FK

FOREIGN KEY(StudentID)

REFERENCES Student\_T(StudentID),

CONSTRAINT CourseIsRegistered\_FK

FOREIGN KEY (SectionNo, Semester)

REFERENCES Section\_T(SectionID, Semester));

2. CREATE VIEW Student\_V AS

SELECT StudentID, StudentName FROM Student\_T;

3. See the SECTION\_FK constraint in the DDL for the SECTION table in Problem and Exercise 1 above.

4.

1. ALTER TABLE Student\_T

ADD Class VARCHAR2(5);

1. DROP TABLE Registration\_T;
2. ALTER TABLE Faculty\_T

MODIFY FacultyName VARCHAR2(40);

Note: CHANGE instead of MODIFY also usually works.

5.

1. INSERT INTO Student\_T (StudentID, StudentName)

VALUES (65798,’Lopez’);

INSERT INTO Student\_T VALUES (65798,’Lopez’);

1. DELETE FROM Student\_T WHERE StudentID = 65798;
2. UPDATE Course\_T

SET CourseName = ‘Introduction to Relational Databases’

WHERE CourseID = ‘ISM 4212’;

6.

* 1. SELECT StudentID, StudentName

FROM Student\_T

WHERE StudentID < 50000;

* 1. SELECT FacultyName

FROM Faculty\_T

WHERE FacultyID = 4756;

* 1. SELECT MIN(SectionID)

FROM Registration\_T

WHERE Semester = ‘I-2008’;

7.

* 1. SELECT COUNT(\*)

FROM Registration\_T

WHERE Section = 2714

AND Semester = ‘I-2008’;

* 1. SELECT FacultyID,CourseID,DateQualified

FROM Qualified\_T

WHERE DateQualified >= ‘01-JAN-1993’;

8.

1. We assume all the question wishes in the result set are the Student IDs. The Database course is ISM 4212, which is Section 2714 in the Registration\_T table, and the Networking course is ISM 4930, which is Section 2715 in the Registration\_T table:

SELECT StudentID,COUNT(\*)

FROM Registration\_T

WHERE SectionNo IN (2714,2715)

GROUP BY StudentID

HAVING COUNT(\*) > 1;

1. In answering this question, we assume we are not interested in seeing those instructors who can teach neither course, but rather only those who can teach one but not the other course.
   1. SELECT InstructorID,COUNT(\*)

FROM Qualified\_T

WHERE CourseID IN (‘ISM 3113’,’ISM 3112’)

GROUP BY InstructorID

HAVING COUNT(\*) = 1;