Using the University Records Database solve the following problems.

1. Retrieve the name, city, and grade point average (GPA) of students with a high (GPA) greater than or equal to 3.7. The results follow the SELECT statement.
   Select StdFirstName, StdLastName, StdCity, StdGPA
   From Student
   Where StdGPA >= 3.7;

2. List all columns and rows of the Faculty table. The resulting table is show in two parts.
   Select *
   From Faculty;

3. List the name, city, and increased salary of faculty hired after 1991 if the salary raise is 10%.
   Note: The year function extracts the year part of a column with a date data type.
   Select FacFirstName, FacLastName FacCity, FacSalary * 1.1 As InflatedSalary, FacHireDate
   From Faculty
   Where year(FacHireDate) > 1991

4. List the senior level IS courses.
   Select *
   From Offering
   Where CourseNo Like ‘IS4%’

5. List the name and hiring date of faculty hired in 1994 or 1995.
   Select FacFirstName, FacLastName, FacHireDate
   From Faculty
   Where (year(FacHireDate) = 1994) OR (year(FacHireDate) = 1995)

   Alternate Solution:
   Select FacFirstName, FacLastName, FacHireDate
   From Faculty
   Where FacHireDate between #1/1/1994# AND #12/31/1995#

6. List the offering number and course number of summer 2000 offerings without an assigned instructor.
   Select OfferNo, CourseNo
   From Offering
   Where (OffTerm = ‘SUMMER’) AND (OffYear = 2000) AND FacSSN IS NULL

7. List the offering number, course number, and faculty social security number for course offerings scheduled in fall 1999 or winter 2000.
   Select OfferNo, CourseNo, FacSSN
   From Offering
   Where (OffTerm = ‘FALL’ AND OffYear = 1999) OR (OffTerm = ‘Winter’ AND OffYear = 2000)

8. List the offering number, course number, days, and time of offerings containing the words “database” or “programming” in the course description and taught in spring 2000.
Select OfferNo, CourseNo, OffDays, OffTime
From Offering, Course
Where (OffTerm = Spring AND OffYear = 2000)
    AND
    (Offering.CourseNo = Course.CourseNo)
    AND
    (Course.CrsDesc Like '*database*
        OR Course.CrsDesc Like '*programming*')

9. List the offer number, course number, and name of the instructor of IS course offerings scheduled in fall 1999 that are taught by assistant professors.
Select OfferNo, CourseNo, facFirstName, facLastName
From Offering, Faculty
Where (CourseNo Like 'IS*')
    AND
    (OffTerm = 'Fall')
    AND
    (OffYear = '1999')
    AND
    (Offering.FacSSN = Faculty.FacSSN)
    AND
    (FacRank = 'ASST')

10. List the offer number, course number, and name of the instructor of IS course offerings scheduled in fall 1999 that are taught by assistant professors. (Use Inner Join Key Word)
Select OfferNo, CourseNo, FacFirstName, FacLastName
FROM Offering INNER JOIN Faculty ON Faculty.FacSSN = Offering.FacSSN
Where (CourseNo Like 'IS*')
    AND
    (OffTerm = 'Fall')
    AND
    (OffYear = '1999')
    AND
    (FacRank = 'ASST')

11. Summarize the average GPA of students by major.
Select StdMajor, AVG(StdGPA) AS AvgGPA
From Student
GROUP BY StdMajor

12. Summarize the average GPA of upper-division (junior or senior) students by major.
Select StdMajor, AVG(StdGPA) AS AvgGPA
From Student
GROUP BY stdMajor
Where StdClass = 'JR' OR StdClass = 'SR'

13. Summarize the average GPA of upper-division (junior or senior) students by major. Only list the majors with average greater than 3.1.
Select StdMajor, AVG(StdGPA) AS AvgGPA
From Student
Where StdClass IN ('JR', 'SR')
GROUP BY stdMajor
14. List the number of upper-division students and their GPA.
   Select Count(*) AS StdCnt, Avg(StdGPA) AS AvgGPA
   From Student
   Where StdClass = ‘JR’ OR StdClass = ‘SR’

15. Summarize the minimum and maximum GPA of students by major and class.
   Select Min(StdGPA), Max(StdGPA)
   From Student
   Group BY StdMajor, StdClass

16. Summarize the number of IS course offerings by course description.
   Select CrsDesc, Count(*) AS OfferCount
   From Course, Offering
   Where Course.CourseNo = Offering.CourseNo
   AND CourseNo Like ‘IS*’
   Group By CrsDesc

17. List the GPA, Name, city, and state of juniors. Order the result by GPA in ascending order.
   Select StdGPA, StdFirstName, StdLastName, StdCity, StdState
   From Student
   Order By stdGPA ASCENDING

18. List the rank, salary, name, and department of faculty. Order the result by ascending (alphabetical) rank and descending salary.
   Select FacRank, FacSalary, FacLastName, FacFirstName, FacDept
   From Faculty
   Order By FacRank Ascending, FacSalary Desc

19. List the city and state of faculty members.
   Select FacCity, FacState
   From Faculty

20. List the unique city and state combinations in the Faculty table.
    Select DISTINCT FacCity, FacState
    From Faculty

21. List the course number, unique member, and average grade of students enrolled in fall 1999 IS course offerings in which more than one student is enrolled. Sort the result by course number in ascending order and average grade in descending order.
    Select CourseNo, Enrollment.OfferNo, Avg(EnrGrade) AS AvgGrade
    From Enrollment, Offering
    Where CourseNo Like ‘IS*’ AND OffYear = 1999
    AND OffTerm = ‘FALL’
    AND Enrollment.OfferNo = Offering.OfferNo
    AND Enrollment.OfferNo = Offering.CourseNo
    Group By CourseNo, Enrollment.OfferNo
    Having Count(*) > 1
    Order By CourseNo Ascending, Avg(StdGPA) Descending

22. List the student name, offering number, and grade of students who have a grade ≥ 3.5 in a course offering.
Select StdFirstName, StdLastName, StdGPA
From Student, Enrollment
Where EnrGrade >= 3.5
    AND Student.StdSSN = Enrollment.StdSSN

23. List the names of students who have a grade ≥ 3.5 in a course offering.
    Select StdFirstName, StdLastName
    From Student
    Where Enrollment.EnrGrade > 3.5
        AND Enrollment.StdSSN = Student.StdSSN

24. List the students name (without duplicates) who have a grade ≥ in a course offering.
    Select Distinct StdFirstName, StdLastName
    From Student
    Where Enrollment.EnrGrade > 3.5
        AND Enrollment.StdSSN = Student.StdSSN

25. List the student name and offering number in which the grade is greater than 3.7 and the offering is given in the fall 1999.
    Select StdFirstName, StdLastName, OfferNo
    From Student, Offering
    Where Student.StdSSN = Enrollment.StdSSN
        AND Enrollment.OfferNo = Offering.OfferNo
        AND EnrGrade >= 3.7
        AND OffYear = 1999
        AND OffTerm = 'FALL'

26. List the social security number, the name, and the major of students who have a high grade (≥ 3.5) in a course offering.
    Select stdSSN, StdFirstName, StdLastName, StdMajor
    From Student
    Where Student.StdSSN IN
        (Select StdSSN
            From Enrollment
            Where EnrGrade >= 3.5)

27. List the social security number, the name (first and last), and the major of students who have a high grade (≥ 3.5) in a course offering.
    Select StdSSN, StdFirstName, StdLastName, StdMajor
    From Student
    Where Exists
        (Select StdSSN From Enrollment
            Where Student.StdSSN = Enrollment.StdSSN
            And EnrGrade >= 3.5)