Project 5 (100 points) Name Oliver Conover

For this project. use the **School Scheduling Example Database** from the book. The data diagram is on page 728. ***Note the data diagram has the table ClassRooms but it’s really Class\_Rooms.***

You don’t need to answer the questions. Just paste your query as your answer.

The following queries are single table queries so **only one table** is used. Read the question to identify the table to use. Provide the fields that you think will be helpful. You will lose 2 points for each question if you use select \*. (2 points each)

1. List the categories of classes we offer and show them in alphabetical order. (19 rows)

select CategoryDescription

from Categories

order by CategoryDescription

2. Show me a complete list of all the subjects we offer. (56 rows)

select CategoryID

from Subjects

3. What the unique titles are associated with our faculty? (3 rows)

select distinct Title

from Faculty

4. List the names and phone numbers of all our staff and sort them by last name. (27 rows)

select StfLastname + ', ' + StfFirstName StaffName, StfPhoneNumber

from Staff

order by StfLastname

5. List the staff members in descending order of salary. (27 rows)

select StfLastname + ', ' + StfFirstName StaffName, Salary

from Staff

order by salary desc

6. List the name of every staff members who was hired in 1985. (3 rows)

select StfLastname + ', ' + StfFirstName StaffName, DateHired

from Staff

where DateHired between ('1984-12-31') and ('1986-01-01')

7. List all students that are Single. (14 rows)

select StudFirstName + ' ' + StudLastName StudentName, StudMaritalStatus

from Students

where StudMaritalStatus = 'S'

8. Show which staff members use a post office box as their address. So address contains the word box. (3 rows)

select StfLastname + ', ' + StfFirstName, StfStreetAddress

from Staff

where StfStreetAddress like '%box%'

9. List all the subjects that have a subject code starting with ‘MUS’. (4 rows)

Select SubjectDescription, SubjectCode

from Subjects

where SubjectCode like 'MUS%'

10. What is the average class duration? (1 row in result set) 78 minutes is the answer.

Select avg(Duration) AverageDuration

from Classes

11. Using the Classes table, how many classes are held in room (ClassRoomId) 3346? Should be 10 classes. (1 row in result set)

select ClassRoomID, count(ClassID) ClassAmnt

from Classes

where ClassRoomID = 3346

group by ClassRoomID

The following queries require **two tables.** (5 points)

12. Display buildings and all the classrooms in each building. (47 rows)

select b.BuildingName, c.ClassRoomID

from Buildings b, Class\_Rooms c

where c.BuildingCode = b.BuildingCode

The following queries require **three tables.** (10 points each)

13. List students names and all the classes (ClassId) in which they are currently enrolled. Hint: First run a query to display all the fields in the Student\_Class\_Status table . Then you can identify what ClassStatus represents Enrolled. (50 rows)

select s.StudFirstName + ' ' + s.StudLastName, ssch.ClassStatus, c.ClassID

from Students s

join Student\_Schedules ssch

on ssch.StudentID = s.StudentID

join Classes c

on c.ClassID = ssch.ClassID

where ssch.ClassStatus = 1

14. Display all faculty names and the classids they are scheduled to teach with the StartDate. Using Staff, Faculty\_Classes and Classes table. (130 rows)

select s.StfLastname + ', ' + s.StfLastname StaffName, c.ClassID, c.StartDate

from Staff s

join Faculty\_Classes fc

on fc.StaffID = s.StaffID

join Classes c

on fc.ClassID = c.ClassID

15. Display students names that are enrolled in a class on Tuesday. Remember a student could be in more than one class, so find the unique students. The value is 1 in the TuesdaySchedule, if they have a class that day. (18 rows)

select distinct s.StudLastName + ', ' + s.StudFirstName StudentName, c.TuesdaySchedule

from Students s

join Student\_Schedules ssch

on ssch.StudentID = s.StudentID

join Classes c

on c.ClassID = ssch.ClassID

where c.TuesdaySchedule = 1

The following queries require **four tables.** (10 points)

16. Show me the students names who have a grade of 85 or better in Art and who also are females. First run a query to show the categories table, so you can identify the categoryid for Art. Now you don’t need to link in the Categories table since you have recorded the Categoryid for Art. Use the Classes, Student\_Schedules, Students and Subject tables. (2 row)

select s.StudFirstName, s.StudLastName, s.StudGender, sub.CategoryID

from Classes c

join Student\_Schedules ssch

on ssch.ClassID = c.ClassID

join Students s

on s.StudentID = ssch.StudentID

join Subjects sub

on c.SubjectID = sub.SubjectID

where sub.CategoryID = 'ART'

and

ssch.Grade > 85

and s.StudGender = 'F'

For these last two questions, use the **School Scheduling Modify Database** from the book. The data diagram is on page 729. Updating and inserting records with these questions. First you want to run a select query to make sure you are going to select the correct number of rows. So paste your **select query** and your **update query** after each questions. (2 points for each of the four queries)

17. Using one table, for all staff in zip codes 98270 and 98271, change the area code to 360. (2 rows)

Paste your select query.

select \*

from Staff s

where s.StfZipCode in (98270, 98271)

Paste your UPDATE query

update Staff

set StfAreaCode = 360

where StfZipCode in (98270, 98271)

18. Using the Staff table, for anyone hired before Jan 1, 1990, increase their salary by 5%. This would be the calculation salary = salary + (salary \* .05) (24 rows)

Paste your select query.

select \*

from Staff s

where DateHired < '01-01-1990'

Paste your UPDATE query

Update Staff

set Salary = Salary + (Salary \* .05)

where DateHired < '01-01-1990'

19. Create Excel file to upload. For the Staff table, write a query to output to excel the staffid, stffirstname, stflastname, salary. Upload that file with your Project 5 document. Name your file Project5 and your last name. (2 points)

select StaffID, StfFirstName, StfLastname, Salary

from Staff s

20. Only paste your query after the last table is added. You want **unique** rows and should have 108 rows. Use table alias. ( 6 points)

a. Use the faculty and the staff tables. In the select statement have the StfFirstName and StfLastName

b. Add the Faculty Classes table

c. Add the Classes table

d. Add the Student\_Schedules table

e. Add the Students table

f. Add the StudFirstName and StudLastName to the select statement.

g. Paste your query here.

select s.StfFirstName, s.StfLastname, st.StudFirstName, st.StudLastName

from Faculty f

join Staff s

on s.StaffID = f.StaffID

join Faculty\_Classes fc

on fc.StaffID = s.StaffID

join Classes c

on c.ClassID = fc.ClassID

join Student\_Schedules ssch

on ssch.ClassID = c.ClassID

join Students st

on st.StudentID = ssch.StudentID

21. If I wanted to write a query to see the Classrooms and the names of the students in those classrooms, what four tables would I use in my query. ( 2 points)

Students, Students Schedules, Classes, Classrooms

For these questions, you will need to use the Book Data Diagrams.

**Sales Order Example Database –**

**For example:** If I have a query written with Orders, Order\_Details and Products and now I want to add Customers.CustomerID to my select statement. Because Orders to Customer is a many to one relationship, each order is for one customer. The number of rows in the result set stays the same.

**For example:** If I have a query written with Customers and Orders and now I want to add Order\_Details.QuantityOrdered to my select statement. Because Orders to Order\_Details is a one to many relatinoship, each order has many Order\_Details lines. The number of rows in the result is more.

I can only have less rows if I add a where statement that filters the result set.

**Entertainment Agency Example Database –**  (3 pts)

|  |  |  |
| --- | --- | --- |
| If I have a query written with these tables. | I now add this field to my select statement: | Will I have **more** or the **same** number of rows in the result set. |
| Entertainers, Entertainer\_Styles | Muscial\_Styles.StyleName | Same, StyleID |
| Agents, Engagements | Customers.CustomerID | Same, CustomerID |
| Engagements, Entertainers | Entertainer\_Styles.StyleStrength | More, EntertainerID |

List the field or fields that you would use to link the tables. (4 points)

|  |  |  |
| --- | --- | --- |
| Table 1 | Table 2 | What **field(s)** used to link the tables |
| Engagements | Agents | AgentID (I did the first one) |
| Customers | Musical\_Preferences | CustomerID |
| Musical\_Styles | Musical\_Preferences | StyleID |
| Entertainer\_Members | Members | MemberID |
| Engagements | Entertainer\_Members | EntertainerID |

**School Scheduling Example Database –** (3 points)

|  |  |  |
| --- | --- | --- |
| If I have a query written with these tables. | I now add this field to my select statement: | Will I have **more** or the **same** number of rows in the result set. |
| Buildings, ClassRooms | Classes.credits | More |
| Classes, Student\_Schedules | Student.StudentID | Same |
| Majors, Students | Student\_Schedules.Grade | More |
| Classroom, Classes | Subject.SubjectName | Same |

**Bowling League Example Database –** (2 points)

|  |  |  |
| --- | --- | --- |
| If I have a query written with these tables. | I now add this field to my select statement: | Will I have more or the same number of rows in the result set. |
| Tournaments, Tourney\_Matches | Match\_Games.WinningTeamID | More |
| Teams, Bowlers | Bowler\_Scores.HandicapScore | More |

List the field or fields that you would use to link the tables. (3 points)

|  |  |  |
| --- | --- | --- |
| Table 1 | Table 2 | What field(s) used to link the tables |
| Match\_Games | Bowler\_Scores | MatchID, GameNumber |
| Bowlers | Bowler\_Scores | BowlerID |
| Tournaments | Tourney\_Matches | TourneyID |