Instructions

Students will need to get a copy of the **construction** database from the **BCO2149 VU Collaborate** site or from their lecturer and then save it to their local drive c:

Students are required to use **winSQL** and the **construction** database in order to create queries for the following questions.

Each question is worth 2 marks.

Your assignment **submission** should include a virus free floppy disk, memory stick or CD that contains the query and output for each question. If you email your submission you must ensure that you have your name and student number in your document.…

Construction Database

The **construction** company database maintains information on employees, departments, projects, categories and employee assignments.

The *tblEmployee* table maintains information relating to an employee including the department they belong to and their supervisor.

The *tblDepartment* table stores information relating to full name of each department

The *tblCategory* table lists all the different types of sectors a project can belong to.

The *tblProject* table stores information relating to projects, the employee who is its overall supervisor and the category it belongs to.

The t*blAssigned* table maintains information relating to employees and the time they have spent on a particular project. It maintains the number of days an employee has worked on a project and their hourly rate for project.

Data Dictionary

Field	Definition	Table
Emp_NO	Is a number that uniquely identifies an employee	tblEmployee, tblAssigned
Surname	Represents an employees Surname	tblEmployee
F_Name	Represents an employees Christian name	tblEmployee
Room	Represents the room number of an employees office	tblEmployee
Phone	Represents the phone number assigned to an employee	tblEmployee
Salary	Represents an employees current salary	tblEmployee
Depart_NO	Is a letter that uniquely identifies a department	tblDepartment, tblEmployee
Manager_NO	Is a specific Emp_NO. that identifies the manager of a particular employee	tblEmployee
Project_NO	Is an identifier that uniquely identifies a project	tblProject, tblAssigned
Project_Title	Represents the title of a project	tblProject
Start_Date	Represents the projects start date	tblProject
End_Date	Represents the projects end date	tblProject
Total_Cost	Represents the total cost of the project	tblProject
Supervisor_NO	Is a specific Emp_NO. that identifies the supervisor of a particular project	tblProject
Category_NO	Is a number that uniquely identifies a specific category	tblCategory
Depart_Name	Represents the full name of a department	tblDepartment
Category_Name	Represents the full name of a category	tblCategory
Duration	Represents the number of days an employee works on a specific project	tblAssigned
Charge_Rate	Represents the hourly rate charge rate of an employee whilst working on a specific project	tblAssigned

tblEmployee(**Emp_NO**, Surname, F_Name, Room, Phone, Salary, Depart_NOfk, Manager_NOfk)

tblDepartment(**Depart_NO**, Depart_Name)

tblCategory(**Category_NO,** Category_Name)

tblProject(**Project_NO,** Project_Title, Start_Date, End_Date, Total_Cost, Supervisor_NOfk)

tblAssigned(**Project_NO**, **Emp_NO,** Duration, Charge_Rate)

Questions

1. Display all employee details for those employees that receive a salary in the range of 75,000 and 95,000 dollars inclusive. Order the output by Surname in descending order.

2. What is the surname and first name of the employee that receives the **highest** salary?

3. List the complete details of all the employees that have been assigned to the department called '*Administration*'. Order the output by employee **surname** in ascending order

4. Display the project number, title and total cost of all projects whose project title starts with the letter '*H*'.

5. What is the title of each project that has not started yet?

6. What is the title and total cost of each project that has started but has not been completed?

7. List the full details of all employees that have been assigned to the project with project number '*E11*'

8. What are the titles of the projects that employee '*Bill Smith*' has worked on?'

9. How many projects are there in each category? Display the category and the count. Rename the count as '*Total Number*' Order the output by category in descending order.

10. For each project display the project number, project title and the employee number, first name and surname of the employee who supervises the project

11. What is the project title, employee number, first name and surname of the employee who has been assigned to a project for the longest duration?

12. Display a employee number, surname and first name of the employees that do not supervise a project.

13. For each employee that supervises a project, display their surname and first name and the number of project they supervise. Order the output by employee surname in descending order.

14. For each employee assigned to a project display their employee number, duration, charge rate and the their total fee. Total fee is a calculation based on the multiplication of an employee's duration time and hourly charge rate for a specific project.. The heading for this calculated field is to be '*Total Fee*'

15. Which employees supervises more than 3 projects? Display only the employee number and count. Rename the count to "Projects Supervised"

16. For each employee display their employee number, first name and surname and the employee number first name and surname of their managers.

17. For each project assignment display the project number, project title, employee number, first name, surname, and the full name of the department they belong to.

18. What is the sum of all project total costs? Label the heading as '*Total Costs*'

19. What is the first name and surname of the employee with the second lowest salary?

20. List all the details of employees who are not assigned to the *Construction* department

21. For each employee display the number of projects they have worked on? Show the employee number and count only.

22. How many hours(duration in total) has employee Anne Smith worked on projects?

23 What are the names of the employees that have worked on the Melbourne Airport project. Display the employee number, surname, first name , project name and start and end dates.

24. Which projects(Project Title) have had more than 5 employees work on it?

25. For each project what is the sum of all employee costs? Display the project name and sum of all employee costs. Rename this field as 'Sum of Costs'

26. What is the name of the employee that has the highest charge rate for any project?

27 An employee's room is made up of three components Building letter, level and room number. For example K123 refers to building K, level 1 and room 23. Display all the employee details of those employee that have a room on level 3.

28. Which projects were completed in the year 2003?

Construction Database Tables

tblEmployee

Emp_NO	Surname	F_Name	Room	Phone	Salary	Depart_NO	Manager_NO
1000	Smith	Bill	K123	5607	$67,000.00	A	5000
2000	Smith	Anne	H234	8976	$56,800.00	B	5000
3000	Sheedy	Kevin	B540	3456	$87,500.00	C	5000
4000	West	Karen	B231	3200	$45,000.00	A	1000
5000	Lost	Wayne	N908	1222	$100,000.00	B	
6000	Smith	Gus	M777	4567	$55,000.00	A	1000
7000	Paul	Jenny	M555	3332	$75,000.00	C	5000
8000	Short	Michael	L123	8909	$88,000.00	C	5000
9000	Hird	Jim	W343	1111	$90,000.00	A	1000
9911	Wong	John	W222	2222	$78,000.00	B	5000

tblProject

Project_NO	Project_Title	Start_Date	End_Date	Supervisor_NO	Category_NO	Total_Cost
A10	Southern Freeway	1/01/2001	12/12/2003	1000	1	$1,000,000.00
A11	Picture Theatre	2/10/2000	30/09/2002	7000	2	$500,000.00
B22	City Tower	25/10/2002		7000	2	$850,000.00
B55	Shopping Centre	26/05/2001	10/10/2003	5000	2	$1,150,000.00
D21	University Melbourne	10/02/2003		1000	3	$990,000.00
D44	Melbourne Airport	23/06/2002	18/12/2003	8000	4	$2,100,000.00
E11	Child Care Center	14/08/2001	19/11/2002	9911	2	$500,000.00
F18	Northern Bridge	8/10/2001	15/12/2001	5000	4	$1,800,000.00
F34	Swim Centre	12/01/2002	19/10/2003	5000	1	$780,000.00
M33	Hotel Richmond	3/06/2001	28/07/2002	9911	2	$500,000.00
M89	Hotel Melton			1000	2	$330,000.00
T22	Western Car Yard	14/03/2002	8/09/2003	5000	2	$670,000.00
Z11	Ship Yard			1000	3	$1,400,000.00

tblCategory

Categroy_NO	Category_Name
1	Local
2	Private
3	Federal
4	State

tblDepartment

Depart_NO	Depart_Name
A	Design
B	Administration
C	Construction
D	Technology

tblAssigned

Project_NO	Emp_NO	Duration	Charge_Rate
A10	1000	14	$28.00
A10	2000	3	$40.00
A10	6000	28	$33.00
A10	7000	13	$21.00
A10	8000	150	$42.00
A11	3000	16	$22.00
A11	4000	17	$28.00
A11	7000	28	$42.00
B22	6000	15	$21.00
B22	7000	40	$45.00
B22	8000	20	$35.00
B55	5000	18	$65.00
B55	9000	30	$45.00
D21	1000	41	$60.00
D21	4000	10	$12.00
D21	9911	23	$36.00
D44	7000	23	$21.00
D44	8000	15	$38.00
E11	3000	3	$25.00
E11	4000	5	$21.00
E11	5000	10	$60.00
E11	9911	10	$21.00
F18	5000	18	$32.00
F18	6000	17	$21.00
F34	2000	5	$21.00
F34	3000	11	$18.00
F34	5000	10	$42.00
F34	8000	14	$30.00
M33	1000	10	$52.00
M33	9911	20	$42.00
M89	1000	10	$42.00
T22	2000	10	$16.00
T22	3000	14	$22.00
T22	4000	15	$14.00
T22	9911	12	$35.00
Z11	1000	5	$28.00