IRC_RDBMS_D5_DQL_CE_COD

Test Summary

- No. of Sections: 1
- No. of Questions: 5
- Total Duration: 25 min

Section 1 - DQL_COMMANDS

Section Summary

- No. of Questions: 5
- Duration: 25 min

Additional Instructions:

None

Q1. For an annual event to be held in ABC company, the management has decided to reward the highest salaried employees from every department. However, the process of selection is tedious for the management. So one of the board members suggested to take one employee from each department as a pivot and find the ones who have greater salary than that person. This job is allocated to one person in every department.

You are required to get the top 3 employees details (Name (First name Last Name), department,Location,Salary) from your department where Mr. Bull(Last Name) is taken as a pivot in your department (Retrieve top 3 employees in your department whose salary is greater than Mr.Bull)

Table names are case sensitive.
Table 1 Details: Department Table
Table Name:
ABC_DEPT_DET
Column Names:
ID_DEPT, NAME_DEPT, ID_MNGR, ID_LOC

Sample Table ABC_DEPT_DET

ID_DEPT	NAME_DEPT	ID_MNGR	ID_LOC
10	Administration	200	1700
20	Marketing	201	1800
30	Purchasing	114	1700
40	Human Resources	203	2400
50	Shipping	121	1500
60	IT	103	1400

Table 2 Details: Employee Details
Table Name
ABC_EMP_DET
Column Names:
EMPLOYEE_ID,FIRST_NAME,LAST_NAME,EMAIL,PHONE_NUMBER,HIRE_DATE,JOB_ID,SALARY,COMMISSION_PCT,MANAGER_ID,DEPARTMENT_ID

Sample Table ABC_EMP_DET

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
206	William	Gietz	WGIETZ	515.123.8181	01-10-1987	AC_ACCOUNT	8300	0	205	110
205	Shelley	Higgins	SHIGGINS	515.123.8080	30-09-1987	AC_MGR	12000	0	101	110

OUTPUT FORMAT
Below is the sample output. Follow the same output header names.

Name	Department	Location	Salary
Kevin Mourgos	Shipping	1500	5800

Note: This is not the actual result. Sample is provided for better understanding

Input Format

The required tables will be populated in the back end.

Output Format

Output displays the Name(**First Name followed by space then Last name**), Department, Location and Salary of the chosen employees.
Follow the output header as follows: (case sensitive)
Name Department Location Salary

Sample Input

Sample Output

```
Name    Department      Location        Salary
Adam Fripp      Shipping        1500    8200.00
```

```
Matthew Weiss   Shipping        1500    8000.00
```

Time Limit: 10 ms Memory Limit: 256 kb Code Size: 1024 kb

Q2. Dave owns a book shop. He is planning to stock all the best selling books in his shop. He collected all the information on author, book names and the number of copies sold in the below format.

Table1 Details: Table names are case sensitive
Table Name: authorBooks
Column Name: authorName, bookName

authorName	bookName
Daniel Pink	Drive
Leo Tolstoy	War and Peace
William Shakespeare	Hamlet
William Shakespeare	Othello
J.K.Rowling	Harry Potter
Agatha Christie	The Mouse Trap
Agatha Christie	And Then There Were None

Table2 Details:
Table Name: soldCopies
Column Name: bookName, soldCopies

bookName	soldCopies
Drive	30000
War and Peace	200000
Hamlet	500000
Othello	400000
Harry Potter	700000
The Mouse Trap	80000
And Then There Were None	100000

Create an SQL query that shows the **top 3 authors who sold the most books** in total along with total number of copies sold.

Sort the output in descending order of sold copies.

The headers in the output must be named as follows
Author_Name sold_sum

Input Format

The input tables are populated in the back end.

Output Format

The output consists of Author Name and sum of the books sold arranged in **descending order based on sold copies**.
The headers in the output must be named as follows (case sensitive)

Author_Name, sold_sum

Sample Input **Sample Output**

```
Author_Name     sold_sum
William Shakespeare     900000
J.K.Rowling     700000
Leo Tolstoy     200000
```

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q3. You are given two tables of XYZ company, EMPLOYEE_XYZ and INCENTIVES_XYZ which has details about employees of a company and their incentives. Write a SQL Query that fetches the employee Id as **ID**, first name of the employees as **First_name** and sum of the incentives as **Incentive** for each IDs from the Incentives table.

Display in ascending order of employee ID.

Table names are case sensitive.

TABLE 1: EMPLOYEE_XYZ
Column Names: Employee_id, First_name,Last_name,Salary,Joining_date,Department

TABLE 2: INCENTIVES_XYZ
Column Names: Id, Incentive_date,Incentive_amount

Below are only **sample tables with sample data**. Original data will be populated in the back end.
TABLE 1: EMPLOYEE_XYZ

Employee_id	First_name	Last_name	Salary	Joining_date	Department
1	John	Abraham	1000000	11-10-2008	Banking
2	Michael	Clarke	800000	11-09-2007	Insurance
3	Roy	Thomas	700000	11-08-2006	Banking
4	Tom	Jose	600000	22-11-2008	Insurance

TABLE 2: INCENTIVES_XYZ

Id	Incentive_date	Incentive_amount
1	01-02-2013	5000
2	01-02-2013	3000

Input Format

The required table will be populated in the back end.

Output Format

The output consists of ID, First_name and Incentive.
Follow output header as below. (case sensitive)
ID, First_name, Incentive

Sample Input

Sample Output

```
ID      First_name      Incentive
1       John    9500
2       Michael 6500
3       Roy     4000
```

Time Limit: 10 ms Memory Limit: 256 kb Code Size: 1024 kb

Q4. Here is the sample employee and salary information of ABC Infotech Limited company. The company has total of 30 employees. Below are only the sample tables. The original table will be populated in the backend

Table names are case sensitive
Table Name: EMPLOYEES_ABC
Column Names: employeeID, employeeName,departmentName

employeeID	employeeName	departmentName
1	John	Management
2	Smith	Sales
3	Dave	Management
4	Sebolt	Business Analyst
5	Francis	Systems Engineer

Table Name: SALARIES_ABC
Column Names: employeeID, employeeName,Salary

employeeID	employeeName	Salary
1	John	10000
2	Smith	8000
3	Dave	15000
4	Sebolt	12000
5	Francis	7000

Write a query to display every department name where the average salary per employee is lower than 7000.
The headers in the output must be named as follows
Department_Name, Avg_salaries

Input Format

The required input table will be populated in the backend.

Output Format

Output displays Department Names and average salaries.
The headers in the output must be named as follows (case sensitive)
Department_Name, Avg_salaries

Sample Input

Sample Output

```
Department_Name         Avg_salaries
Sales   6750.000000
```

Time Limit: 10 ms Memory Limit: 256 kb Code Size: 1024 kb

Q5. Write a query to find all dates id’s with humidity % lower compared to its previous dates %(yesterday's).

The table details are given below:
Table Name: HUMIDITY
Column Names: Id, RecordDate, percentage

Sample input Data:

```
---------+----------------+-----------------+
| Id(INT) | RecordDate(DATE) | percentage(INT) |
+---------+----------------+-----------------+
|    1 |    2020-01-01 |       10 |
|    2 |    2020-01-02 |       25 |
|    3 |    2020-01-03 |       20 |
|    4 |    2020-01-04 |       30 |
+---------+----------------+-----------------+
```

Note:

1. Table names are case sensitive.
2. Use self join concept
3. The data is given in the asecending order of RecordDate
4. Use the same header as given in 'Output Format' section.

Input Format

The required input table will be populated in the back end.

Output Format

The output should have the following header
Id

Sample Input

Sample Output

```
Id
3
6
8
```

Time Limit: 100 ms Memory Limit: 256 kb Code Size: 1024 kb

Answer Key & Solution

Section 1 - DQL_COMMANDS

Q1

Test Case

Input

Output

```
Name    Department     Location        Salary
Adam Fripp     Shipping        1500    8200.00
Matthew Weiss  Shipping        1500    8000.00
Payam Kaufling Shipping        1500    7900.00
```

Weightage - 100

Sample Input

Sample Output

```
Name    Department     Location        Salary
Adam Fripp     Shipping        1500    8200.00
Matthew Weiss  Shipping        1500    8000.00
Payam Kaufling Shipping        1500    7900.00
```

Solution

```
SELECT Concat(e.FIRST_NAME,' ', e.LAST_NAME) as Name, d.NAME_DEPT as Department, d.ID_LOC as Location, e.SALARY as Salary
FROM ABC_EMP_DET e
join ABC_DEPT_DET d
on e.DEPARTMENT_ID = d.ID_DEPT
join
(SELECT SALARY, DEPARTMENT_ID FROM ABC_EMP_DET WHERE LAST_NAME = 'Bull') A
on e.DEPARTMENT_ID = A.DEPARTMENT_ID
where e.SALARY>A.SALARY
ORDER BY Salary desc
limit 3;
```

Q2

Test Case

Input

Output

```
Author_Name     sold_sum
William Shakespeare    900000
J.K.Rowling     700000
Leo Tolstoy     200000
```

Weightage - 100

Sample Input

Sample Output

```
Author_Name     sold_sum
William Shakespeare    900000
J.K.Rowling     700000
Leo Tolstoy     200000
```

Solution

```
SELECT authorBooks.authorName AS Author_Name, SUM(soldCopies.soldCopies) AS sold_sum
FROM authorBooks
JOIN soldCopies
ON authorBooks.bookName = soldCopies.bookName
GROUP BY authorBooks.authorName
ORDER BY sold_sum DESC LIMIT 3;
```

Q3

Test Case

Input

Output

```
ID      First_name      Incentive
1       John    9500
2       Michael 6500
3       Roy     4000
```

Weightage - 100

Sample Input

Sample Output

```
ID      First_name      Incentive
1       John    9500
2       Michael 6500
3       Roy     4000
```

Solution

```
SELECT  A.Employee_id as ID,A.First_name as First_name, SUM(B.Incentive_amount) as Incentive
FROM EMPLOYEE_XYZ A
JOIN INCENTIVES_XYZ B
ON A.Employee_id =B.Id
GROUP BY B.Id
ORDER BY B.Id ASC;
```

Q4

Test Case

Input

Output

```
Department_Name         Avg_salaries
Sales   6750.000000
```

Weightage - 100

Sample Input

Sample Output

```
Department_Name         Avg_salaries
Sales   6750.000000
```

Solution

```
SELECT EMPLOYEES_ABC.departmentName AS Department_Name, AVG(SALARIES_ABC.Salary) AS Avg_salaries
FROM EMPLOYEES_ABC
JOIN SALARIES_ABC
ON EMPLOYEES_ABC.employeeID = SALARIES_ABC.employeeID
GROUP BY departmentName HAVING AVG(SALARIES_ABC.Salary) < 7000
```

Q5

Test Case

Input

Output

```
Id
3
6
8
```

Weightage - 100

Sample Input

Sample Output

```
Id
3
6
8
```

Solution

```
 SELECT
A.Id AS 'Id'
FROM
HUMIDITY A
JOIN
HUMIDITY B ON DATEDIFF(A.RecordDate, B.RecordDate) = 1
        AND A.percentage < B.percentage;
```