

Department of Software Engineering
Mehran University of Engineering and Technology, Jamshoro

Course: SWE324 - Data Warehousing and Data Mining

Instructor	Rabeea Jaffari	Practical/Lab No.	03
Date	16 April 2019	CLOs	CLO-4: P3 & P4
Signature		Assessment Score	1 Mark

Topic	To familiar with OLTP system query execution
Objectives	- To learn query execution in OLTP databases

Lab Discussion: Theoretical concepts and Procedural steps

OBJECTIVE: To learn query execution in OLTP databases.

Task1:

SQL QUERIES:

1. Write An SQL Query To Fetch "FIRST_NAME" From Worker Table Using The Alias Name As <WORKER_NAME>.

Solution: Select FIRST_NAME AS WORKER_NAME from Worker;

2. Write An SQL Query To Fetch "FIRST_NAME" From Worker Table In Upper Case.

Solution: SELECT UPPER(FIRST_NAME) FROM Worker;

3. Write An SQL Query To Fetch Unique Values Of DEPARTMENT From Worker Table.

Solution: SELECT DISTINCT(DEPARTMENT) FROM WORKER;

4. Write An SQL Query To Print Last Three Characters Of FIRST_NAME From Worker Table.

Solution: SELECT RIGHT(FIRST_NAME,3) FROM WORKER;

5. Write An SQL Query To Print The FIRST_NAME From Worker Table After Removing White Spaces From The Left Side.

Solution:SELECT LTRIM(First_Name) FROM worker;

6. Write An SQL Query To Print The FIRST_NAME From Worker Table After Replacing 'a' With 'A'.

Solution:SELECT REPLACE(First_Name,'a','A') FROM worker;

7. Write An SQL Query To Print All Worker Details From The Worker Table Order By FIRST_NAME Descending.

Solution: SELECT * FROM worker ORDER BY FIRST_NAME DESC;

8. Write An SQL Query To Print Details For Workers With The First Name As "Vipul" And "Satish" From Worker Table.

Solution:SELECT * FROM worker WHERE FIRST_NAME='Satish' OR FIRST_NAME='Vipul';

9. Write An SQL Query To Print Details Of Workers With DEPARTMENT Name As "Admin".

Solution:SELECT * FROM worker WHERE DEPARTMENT='Admin';

10. Write An SQL Query To Print Details Of The Workers Whose SALARY Lies Between 100000 And 500000.

Solution:SELECT * FROM worker WHERE SALARY BETWEEN 100000 AND 500000;

11. Write An SQL Query To Print Details Of The Workers Who Have Joined In Jan'2014.

Solution:SELECT * FROM worker WHERE YEAR(JOINING_DATE)='2014' &&
MONTH(JOINING_DATE)='06';

12. Write An SQL Query To Fetch The Count Of Employees Working In The Department 'Admin'.

Solution:SELECT COUNT(*) FROM worker WHERE DEPARTMENT='Admin';

13. Write An SQL Query To Fetch The No. Of Workers For Each Department In The Ascending Order.

Solution:SELECT COUNT(*) AS 'No of Emp', DEPARTMENT FROM worker GROUP BY DEPARTMENT
ORDER BY 'No of Emp' ASC;

14. Write An SQL Query To Fetch The List Of Employees With The Same Salary.

Solution: SELECT A.First_Name AS CustomerName1, B.First_Name AS CustomerName2,
A.Salary

FROM worker A, worker B

WHERE A.Worker_ID <> B.Worker_ID

AND A.Salary = B.Salary;

15 Write An SQL Query To Show The Second Highest Salary From A Table.

Solution:SELECT MAX(SALARY) FROM worker WHERE SALARY < (SELECT MAX(SALARY) FROM worker)

Task2:

Execute OLTP queries for the following scenario:

An organization has a main data table that lists events. Each event has a series of fields including duration, reason code and status.

The OLTP system has a table of statuses with attributes status code and Name and there is a common field between the main table (status code), which allows the organization to print the status name rather than the code.

There are four statuses (ready, delay, spare and down) and there are a range of reasons associated with each status with reason codes. It is possible for the same reason code to exist in two statuses (e.g. delay maintenance and down maintenance).

For some reason, the source database has four tables of reasons (one for each status). Each of these has a field which links to the main reason code.

The organization wishes to do the following:

When the main table record status is 'delay', then retrieve the name in the 'delay' table which corresponds to the main table delay code. When the status is 'down', do the same thing but look up the name in the 'down' table.

✓ Showing rows 0 - 0 (1 total, Query took 0.0030 seconds.)

```
SELECT e.duration,s.name,r.reasons from event e Inner JOIN statuses s on s.status_code=e.status_code Inner JOIN ready r on r.id=e.reason_code
```

☐ Profiling [\[Edit inline\]](#) [\[Edit \]](#) [\[Explain SQL \]](#)

☐ Show all | Number of rows: 25 ▼ Filter rows:

+ Options

duration	name	reasons
00:30:00	ready	server is ready to work in 5min

☐ Show all | Number of rows: 25 ▼ Filter rows:

✓ Showing rows 0 - 0 (1 total, Query took 0.0051 seconds.)

```
1 SELECT e.duration,s.name,d.reasons FROM event e
2 INNER JOIN statuses s on e.status_code=s.status_code AND s.status_code=2
3 INNER JOIN delay d on e.reason_code=d.id
```

☒ Enable foreign key checks

☐ Show all | Number of rows: 25 ▼ Filter rows:

+ Options

duration	name	reasons
00:45:00	delay	delay due to server not work properly