



**DEPARTMENT OF COMPUTER SYSTEMS ENGINEERING**  
**MEHRAN UNIVERSITY OF ENGINEERING & TECHNOLOGY,**  
**JAMSHORO**  
**Database Management Systems (4<sup>th</sup> Semester) 18CS**  
**Lab Experiment 4**

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**Roll No:**

**Date of Conduct:**

**Submission Date:**

**Grade Obtained:**

<b>Problem Recognition (0.3)</b>	<b>Completeness &amp; accuracy (0.4)</b>	<b>Timeliness (0.3)</b>	<b>Score (1.0)</b>

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**Objective:** To retrieve data from database using SQL SELECT Statement.

**Tools:** MySql / Oracle.

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**Introduction:**

### **The SQL SELECT Statement**

- The SELECT statement is used to select data from a database.
- The data returned is stored in a result table, called the result-set.

### **SELECT Syntax**

**SELECT** column1, column2 **FROM** table\_name;

Here, column1, column2 are the field names of the table you want to select data from. If you want to select all the fields available in the table, use the following syntax:

**SELECT** \* **FROM** table\_name;

### **SELECT Column Example**

The following SQL statement selects the "CustomerName" and "City" columns from the "Customers" table:

#### **Example**

**SELECT** CustomerName, City **FROM** Customers;

## Lab Task

1. Create a query to display unique departments from EMP table.

Solution:

```
1 • SELECT DISTINCT deptno FROM emp
```

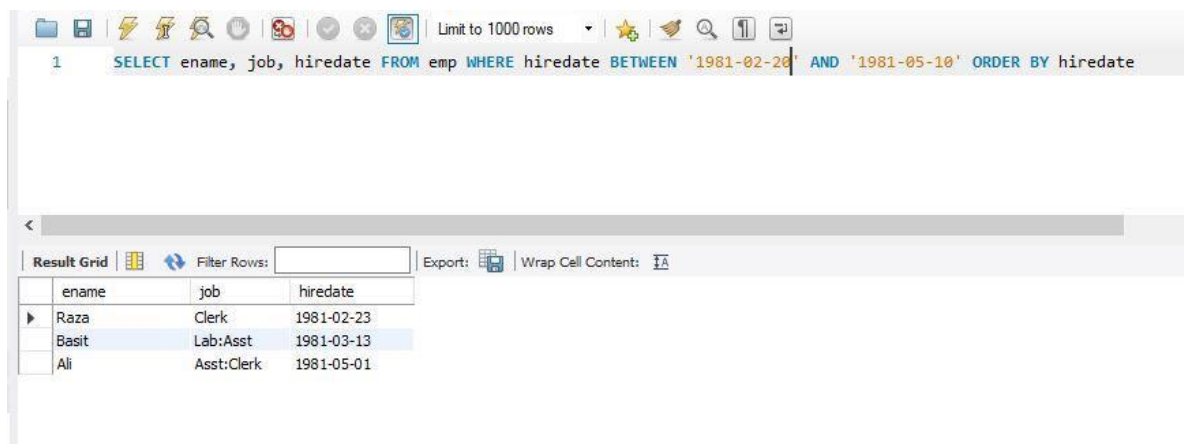


The screenshot shows a SQL query execution interface. At the top, there's a toolbar with icons for 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content'. Below the toolbar, a table displays the results of the query 'SELECT DISTINCT deptno FROM emp'. The table has one column labeled 'deptno' and three rows with values 1, 2, and 3. The row with value 2 is highlighted in blue.

deptno
1
2
3

2. Display the employee name, job, and joining date of employees hired between February 20, 1981 and May 1, 1981. Order the query in ascending order by joining date.

Solution:



The screenshot shows a SQL query execution interface. At the top, there's a toolbar with icons for file operations, search, and other functions. Below the toolbar, a text area contains the query: 'SELECT ename, job, hiredate FROM emp WHERE hiredate BETWEEN '1981-02-20' AND '1981-05-10' ORDER BY hiredate'. Below the query, a table displays the results. The table has three columns: 'ename', 'job', and 'hiredate'. It contains three rows: Raza (Clerk, 1981-02-23), Basit (Lab:Asst, 1981-03-13), and Ali (Asst:Clerk, 1981-05-01). The row for Basit is highlighted in blue.

```
1 SELECT ename, job, hiredate FROM emp WHERE hiredate BETWEEN '1981-02-20' AND '1981-05-10' ORDER BY hiredate
```

ename	job	hiredate
Raza	Clerk	1981-02-23
Basit	Lab:Asst	1981-03-13
Ali	Asst:Clerk	1981-05-01

3. Display the names of all employees who have two 'L' in their name and are in department 30 or their manager is 7782.

Solution:

```
1 SELECT ename
2 FROM emp
3 WHERE (ename LIKE '%L%L') and (deptno=30 or mgr=7782);
```



The screenshot shows a SQL query execution interface. At the top, there's a toolbar with icons for 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content'. Below the toolbar, a table displays the results of the query. The table has one column labeled 'ename' and one row with the value 'Ali Ajmal'.

ename
Ali Ajmal

4. Display the name, salary, and commission for all employees whose commission amount is greater than their salary increased by 10%.

Solution:

```
1 • SELECT ename "Employee", sal "Monthly Salary", comm
2 FROM emp
3 WHERE comm > sal * 1.1
4
```

Employee	Monthly Salary	comm
MARTIN	1250	1400

5. Display the name and salary of employees who earn more than 1500 and are in department 10 or 30. Label the columns Employee and Monthly Salary, respectively.

Solution:

```
1 • SELECT ename "Employee", sal "Monthly Salary"
2 FROM emp
3 WHERE sal > 1500 AND deptno IN (1,3)
4
```

Employee	Monthly Salary
Raza	10000
Ali Ajmal	7000
Basit	13000
Ali Jan	6000
KING	5000
ALLEN	1600
BLAKE	2350
CLARK	2450

6. List out the employees whose name start with S and ends with H.

Solution:

```
1 • SELECT ename "Employee", sal "Monthly Salary"
2 FROM emp
3 WHERE sal > 1500 AND deptno IN (1,3)
4
```

Employee	Monthly Salary
Raza	10000
Ali Ajmal	7000
Basit	13000
Ali Jan	6000
KING	5000
ALLEN	1600
BLAKE	2350
CLARK	2450

7. Write a query that produces following for each employee: earns monthly but wants. Label the column Dream Salaries.

Solution:

```
3 select ename || ' earns ' || SAL || ' monthly but want ' || (SAL*3) as "Dream Salaries"
4 from emp;
5
6 |
7
8
```

Results Explain Describe Saved SQL History

Dream Salaries
KING earns 5000 monthly but want 15000
BLAKE earns 2850 monthly but want 8550
CLARK earns 2450 monthly but want 7350
JONES earns 2975 monthly but want 8925
SCOTT earns 3000 monthly but want 9000

8. Display the name job and salary for all employees whose job is clerk or analyst and their salary is not equal to 1000, 3000, or 5000.

Solution:

```
1 • SELECT ename, job, sal
2     FROM emp
3     WHERE job IN ('CLERK', 'ANALYST')
4     AND sal NOT IN (1000, 3000, 5000)
5
```

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Result Grid	Filter Rows:	Export
ename	job	sal
Raza	Clerk	10000
Ahmed	Clerk	8000
SMITH	CLERK	800
JAMES	CLERK	950

9. Display the names of all employees where the third letter of their name is an A.

Solution:

The screenshot shows a SQL query editor with the following code:

```
1 SELECT ename
2 FROM emp
3 WHERE ename LIKE ' _A%'
4
```

Below the editor is a "Result Grid" tab. The grid has a header row with "ename" and two data rows: "BLAKE" and "CLARK".

ename
BLAKE
CLARK

10. Display name, salary and commission for all employees who earn commission. Sort the result in descending order of salary and commission.

Solution:

The screenshot shows a SQL query editor with the following code:

```
1 SELECT ename, sal, comm
2 FROM emp WHERE comm IS NOT NULL
3 ORDER BY sal DESC, comm DESC
4
```

Below the editor is a "Result Grid" tab. The grid has a header row with "ename", "sal", and "comm". The data rows are sorted by salary in descending order, and then by commission in descending order.

ename	sal	comm
KING	5000	11
SCOTT	3000	
FORD	3000	
JONES	2975	
CLARK	2450	
BLAKE	2350	
ALLEN	1600	300
TURNER	1500	
WARD	1250	500
MARTIN	1250	1400
JAMES	950	
SMITH	800	