LAB REPORT # 03

DEPARTMENT OF SOFTWARE ENGINEERING

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SECTION#A

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Subject: DATABASE MANAGEMENT SYSTEM

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Restricting using where clause and Sorting Data using order by clause and comparison operators:

Objectives:

- To limit the rows that are retrieved by a query
- To sort the rows that are retrieved by a query
- To use ampersand substitution to restrict and sort output at run time

- **The selected table where we perform clause and operations on it**

```
1 ●   SELECT *
2     FROM record.record;
3
```

emp_id	emp_name	emp_job	emp_salary	department_id	job_id
1	Hamza Kamran	Senior Developor	30000	90	IT_PROG
2	Asad Ali	Web Developor	30000	80	IT_SUPPORT
3	Samar Ali	Web Developor	45500	70	MANGAGER
4	Zubair Naeem	ANDROID Developer	54000	80	IT_EMPLOY
5	Ilyas Ahmed	Machine Learning Engineer	34500	90	AI_ENG
NULL	NULL	NULL	NULL	NULL	NULL

- **Where clause in which we perform different comparison operators to perform a query**

Operator	Meaning
BETWEEN AND	Between two values inclusive
IN list	Match any of a list of values
LIKE	Match a character pattern
IS NULL	Is a null value

```
1 •   SELECT *
2     FROM record.record
3     where department_id = 90 ;
4
```

emp_id	emp_name	emp_job	emp_salary	department_id	job_id
1	Hamza Kamran	Senior Developor	30000	90	IT_PROG
5	Ilyas Ahmed	Machine Learning Engineer	34500	90	AI_ENG
NULL	NULL	NULL	NULL	NULL	NULL

- **'Greater than equals' operator**

```
1 •   SELECT *
2     FROM record.record
3     where emp_salary>=40000;
4
```

emp_id	emp_name	emp_job	emp_salary	department_id	job_id
3	Samar Ali	Web Developor	45500	70	MANGAGER
4	Zubair Naeem	ANDROID Developer	54000	80	IT_EMPLOY
NULL	NULL	NULL	NULL	NULL	NULL

- **'Between and ' operator**

```
1 •   SELECT *
2     FROM record.record
3     where emp_salary between 20000 and 40000;
4
```

emp_id	emp_name	emp_job	emp_salary	department_id	job_id
1	Hamza Kamran	Senior Developor	30000	90	IT_PROG
2	Asad Ali	Web Developor	30000	80	IT_SUPPORT
5	Ilyas Ahmed	Machine Learning Engineer	34500	90	AI_ENG
NULL	NULL	NULL	NULL	NULL	NULL

- **'In' operator**

```
1 •    SELECT *
2      FROM record.record
3      where emp_id in(1,4);
4
```

Result Grid | Filter Rows: | Edit: | Export/Import: |

emp_id	emp_name	emp_job	emp_salary	department_id	job_id
1	Hamza Kamran	Senior Developor	30000	90	IT_PROG
4	Zubair Naeem	ANDROID Developer	54000	80	IT_EMPLOY
NULL	NULL	NULL	NULL	NULL	NULL

- **'Like' operator**

```
1 •    SELECT *
2      FROM record.record
3      where emp_name like"i%";
4
```

Result Grid | Filter Rows: | Edit: | Export/Import: |

emp_id	emp_name	emp_job	emp_salary	department_id	job_id
5	Ilyas Ahmed	Machine Learning Engineer	34500	90	AI_ENG
NULL	NULL	NULL	NULL	NULL	NULL

- **'Like' operator with two wildcards**

```
1 ●   SELECT *
2     FROM record.record
3     where emp_name like"_a%";
4
```

emp_id	emp_name	emp_job	emp_salary	department_id	job_id
1	Hamza Kamran	Senior Developor	30000	90	IT_PROG
3	Samar Ali	Web Developor	45500	70	MANGAGER
NULL	NULL	NULL	NULL	NULL	NULL

- **'is null' operator**

```
1 ●   SELECT *
2     FROM record.record
3     where emp_name is null;
4
```

emp_id	emp_name	emp_job	emp_salary	department_id	job_id
NULL	NULL	NULL	NULL	NULL	NULL

- **'and' operator**

```
1 ●   SELECT *
2     FROM record.record
3     where emp_salary >3000 and department_id = 80;
4
```

emp_id	emp_name	emp_job	emp_salary	department_id	job_id
2	Asad Ali	Web Developor	30000	80	IT_SUPPORT
4	Zubair Naeem	ANDROID Developer	54000	80	IT_EMPLOY
NULL	NULL	NULL	NULL	NULL	NULL

- **'or' operator**

```
1 ●   SELECT *
2     FROM record.record
3     where emp_salary >40000 or department_id = 100;
4
```

emp_id	emp_name	emp_job	emp_salary	department_id	job_id
3	Samar Ali	Web Developor	45500	70	MANGAGER
4	Zubair Naeem	ANDROID Developer	54000	80	IT_EMPLOY
NULL	NULL	NULL	NULL	NULL	NULL

- **'not in' operator**

```
1 •    SELECT *
2      FROM record.record
3      where job_id not in ('MANAGER') ;
4
```

emp_id	emp_name	emp_job	emp_salary	department_id	job_id
1	Hamza Kamran	Senior Developor	30000	90	IT_PROG
2	Asad Ali	Web Developor	30000	80	IT_SUPPORT
4	Zubair Naeem	ANDROID Developer	54000	80	IT_EMPLOY
5	Ilyas Ahmed	Machine Learning Engineer	34500	90	AI_ENG
NULL	NULL	NULL	NULL	NULL	NULL

- **'Order by' operator is used for sorting by default order is ascending**

```
1 •    SELECT *
2      FROM record.record
3      ORDER BY department_id ;
4
```

emp_id	emp_name	emp_job	emp_salary	department_id	job_id
3	Samar Ali	Web Developor	45500	70	MANAGER
2	Asad Ali	Web Developor	30000	80	IT_SUPPORT
4	Zubair Naeem	ANDROID Developer	54000	80	IT_EMPLOY
1	Hamza Kamran	Senior Developor	30000	90	IT_PROG
5	Ilyas Ahmed	Machine Learning Engineer	34500	90	AI_ENG
NULL	NULL	NULL	NULL	NULL	NULL

- **'order by ' operator in descending order**

```
1 ●  SELECT *
2    FROM record.record
3    ORDER BY department_id desc ;
4    |
```

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emp_id	emp_name	emp_job	emp_salary	department_id	job_id
1	Hamza Kamran	Senior Developor	30000	90	IT_PROG
5	Ilyas Ahmed	Machine Learning Engineer	34500	90	AI_ENG
2	Asad Ali	Web Developor	30000	80	IT_SUPPORT
4	Zubair Naeem	ANDROID Developer	54000	80	IT_EMPLOY
3	Samar Ali	Web Developor	45500	70	MANAGER
NULL	NULL	NULL	NULL	NULL	NULL