Various operators used in SQL are mentioned below:

1. Arithmetic operators → (+, -, *, /)
2. Comparison operators → (<, <=, >, >=)
3. Character operators → (%, like)
4. Logical operators → (and, or, not)
5. Miscellaneous operators → (in, between, distinct)

Creation of Employee Table:

Command:

CREATE TABLE EMP

(

EMPNO NUMBER (4)

, ENAME VARCHAR2(10)

, JOB VARCHAR2(9)

, MGR NUMBER (4)

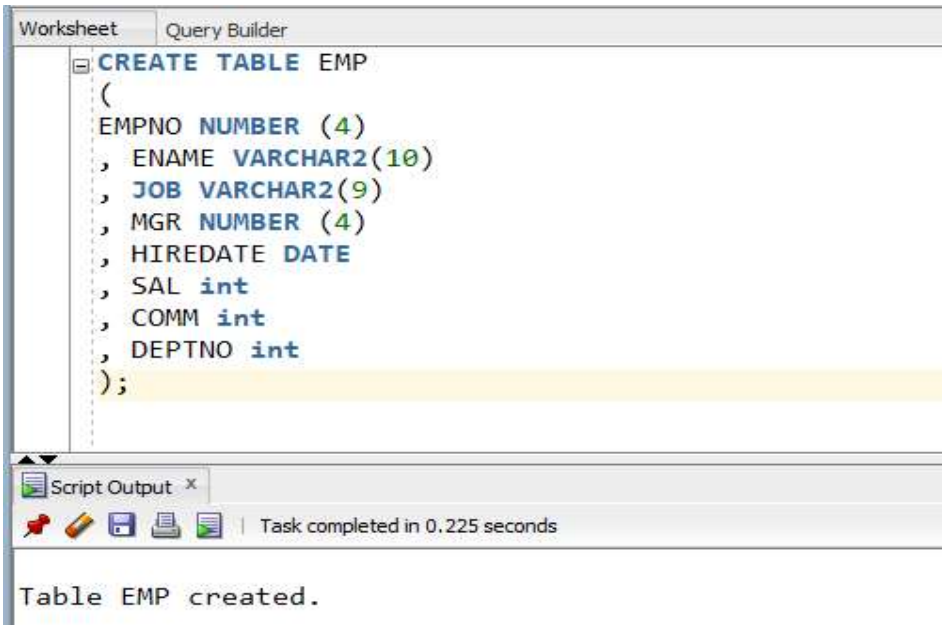
, HIREDATE DATE

, SAL int

, COMM int

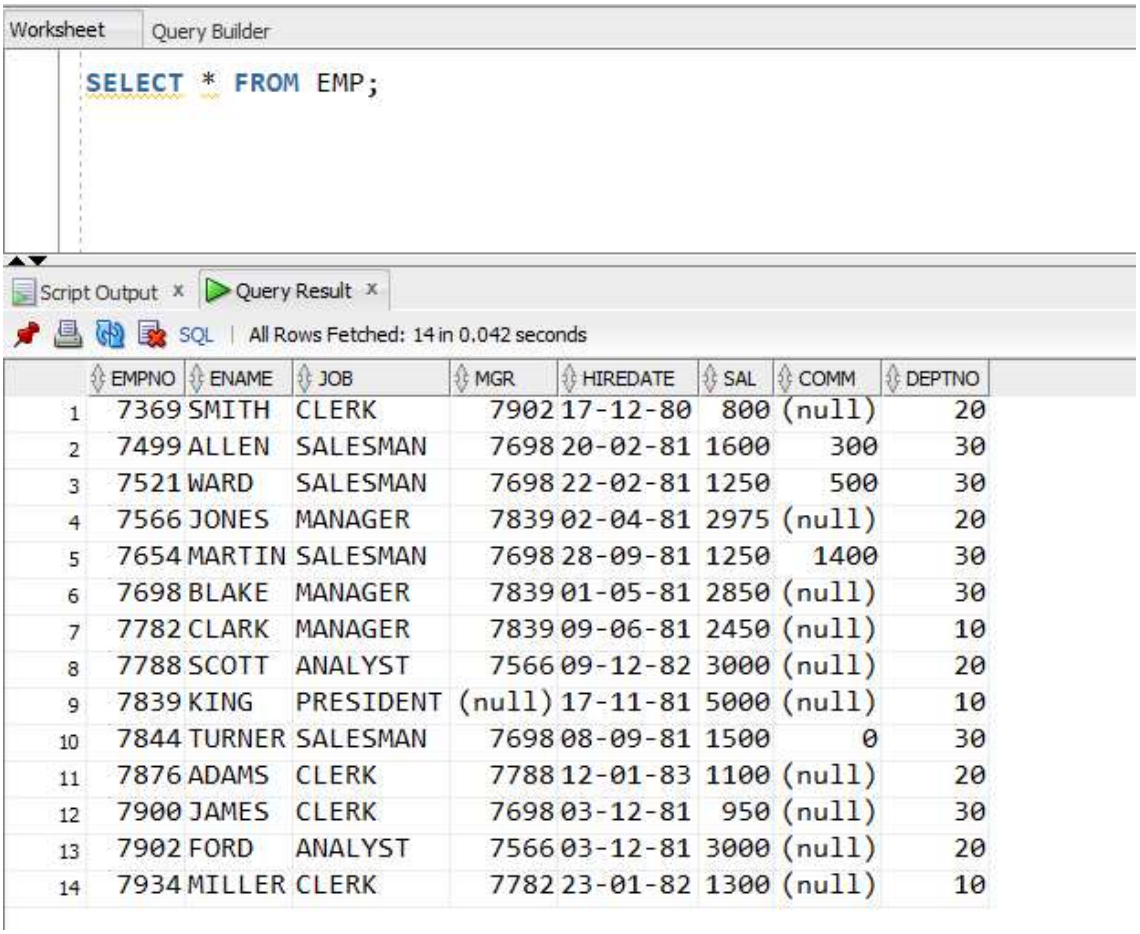
, DEPTNO int

);



* Display all the information of the EMP table?

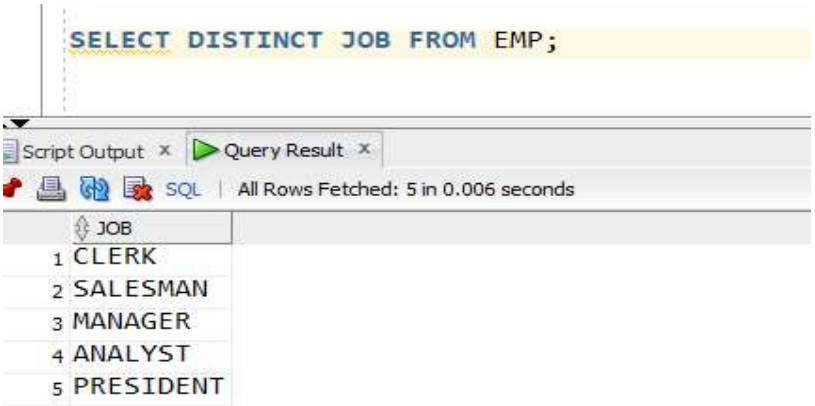
SELECT * FROM EMP;



	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7369	SMITH	CLERK	7902	17-12-80	800	(null)	20
2	7499	ALLEN	SALESMAN	7698	20-02-81	1600	300	30
3	7521	WARD	SALESMAN	7698	22-02-81	1250	500	30
4	7566	JONES	MANAGER	7839	02-04-81	2975	(null)	20
5	7654	MARTIN	SALESMAN	7698	28-09-81	1250	1400	30
6	7698	BLAKE	MANAGER	7839	01-05-81	2850	(null)	30
7	7782	CLARK	MANAGER	7839	09-06-81	2450	(null)	10
8	7788	SCOTT	ANALYST	7566	09-12-82	3000	(null)	20
9	7839	KING	PRESIDENT	(null)	17-11-81	5000	(null)	10
10	7844	TURNER	SALESMAN	7698	08-09-81	1500	0	30
11	7876	ADAMS	CLERK	7788	12-01-83	1100	(null)	20
12	7900	JAMES	CLERK	7698	03-12-81	950	(null)	30
13	7902	FORD	ANALYST	7566	03-12-81	3000	(null)	20
14	7934	MILLER	CLERK	7782	23-01-82	1300	(null)	10

* Display unique Jobs from EMP table?

SELECT DISTINCT JOB FROM EMP;

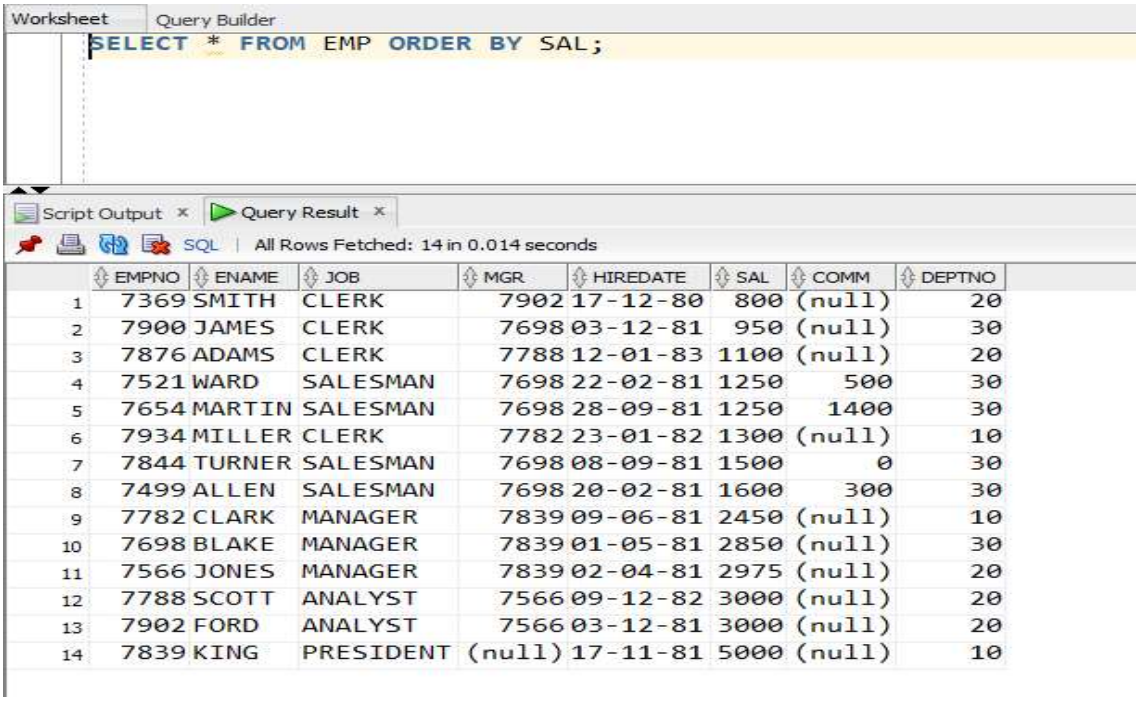


	JOB
1	CLERK
2	SALESMAN
3	MANAGER
4	ANALYST
5	PRESIDENT

* List the emps in the asc order of their Salaries?

SELECT * FROM EMP ORDER BY SAL;

Hint: By default, the order by will sort in ascending order unless specified.



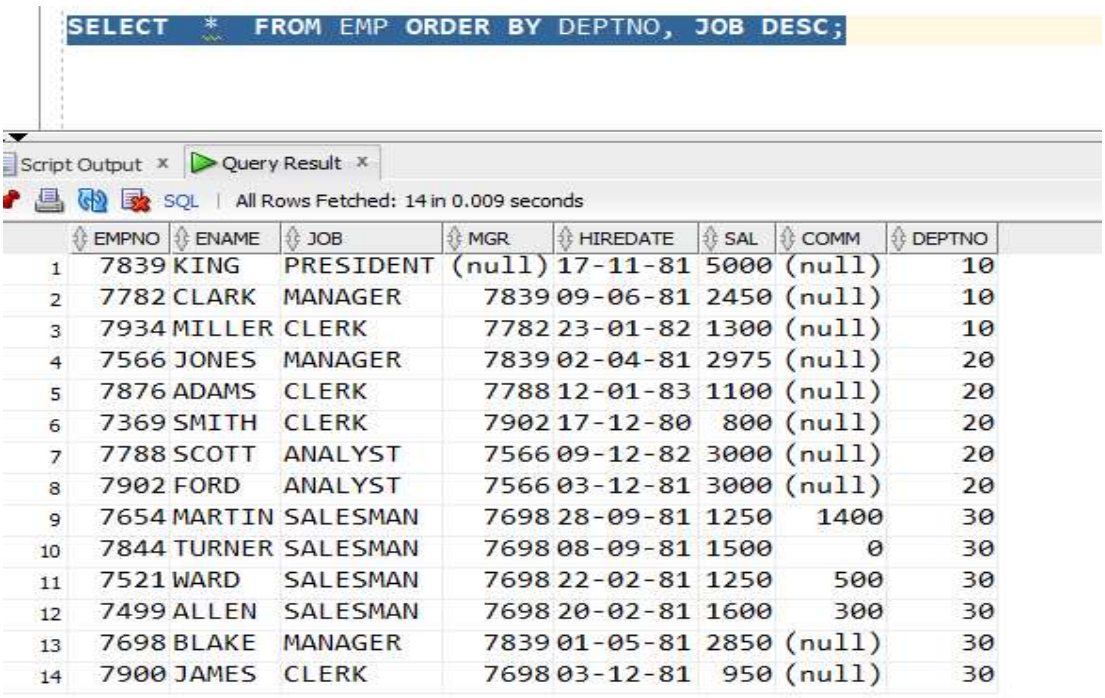
```
SELECT * FROM EMP ORDER BY SAL;
```

Script Output | Query Result | SQL | All Rows Fetched: 14 in 0.014 seconds

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7369	SMITH	CLERK	7902	17-12-80	800	(null)	20
2	7900	JAMES	CLERK	7698	03-12-81	950	(null)	30
3	7876	ADAMS	CLERK	7788	12-01-83	1100	(null)	20
4	7521	WARD	SALESMAN	7698	22-02-81	1250	500	30
5	7654	MARTIN	SALESMAN	7698	28-09-81	1250	1400	30
6	7934	MILLER	CLERK	7782	23-01-82	1300	(null)	10
7	7844	TURNER	SALESMAN	7698	08-09-81	1500	0	30
8	7499	ALLEN	SALESMAN	7698	20-02-81	1600	300	30
9	7782	CLARK	MANAGER	7839	09-06-81	2450	(null)	10
10	7698	BLAKE	MANAGER	7839	01-05-81	2850	(null)	30
11	7566	JONES	MANAGER	7839	02-04-81	2975	(null)	20
12	7788	SCOTT	ANALYST	7566	09-12-82	3000	(null)	20
13	7902	FORD	ANALYST	7566	03-12-81	3000	(null)	20
14	7839	KING	PRESIDENT	(null)	17-11-81	5000	(null)	10

* List the details of the emps in asc order of the Dptnos and desc of Jobs?

SELECT * FROM EMP ORDER BY DEPTNO, JOB DESC;



```
SELECT * FROM EMP ORDER BY DEPTNO, JOB DESC;
```

Script Output | Query Result | SQL | All Rows Fetched: 14 in 0.009 seconds

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7839	KING	PRESIDENT	(null)	17-11-81	5000	(null)	10
2	7782	CLARK	MANAGER	7839	09-06-81	2450	(null)	10
3	7934	MILLER	CLERK	7782	23-01-82	1300	(null)	10
4	7566	JONES	MANAGER	7839	02-04-81	2975	(null)	20
5	7876	ADAMS	CLERK	7788	12-01-83	1100	(null)	20
6	7369	SMITH	CLERK	7902	17-12-80	800	(null)	20
7	7788	SCOTT	ANALYST	7566	09-12-82	3000	(null)	20
8	7902	FORD	ANALYST	7566	03-12-81	3000	(null)	20
9	7654	MARTIN	SALESMAN	7698	28-09-81	1250	1400	30
10	7844	TURNER	SALESMAN	7698	08-09-81	1500	0	30
11	7521	WARD	SALESMAN	7698	22-02-81	1250	500	30
12	7499	ALLEN	SALESMAN	7698	20-02-81	1600	300	30
13	7698	BLAKE	MANAGER	7839	01-05-81	2850	(null)	30
14	7900	JAMES	CLERK	7698	03-12-81	950	(null)	30

* Display all the unique job groups in the descending order?

SELECT DISTINCT JOB FROM EMP ORDER BY JOB DESC;

```
SELECT DISTINCT JOB FROM EMP ORDER BY JOB DESC;
```

Script Output | Query Result

SQL | All Rows Fetched: 5 in 0.004 seconds

	JOB
1	SALESMAN
2	PRESIDENT
3	MANAGER
4	CLERK
5	ANALYST

* Display all the details of all 'MANAGER'

SELECT * FROM EMP WHERE JOB ='MANAGER';

```
SELECT * FROM EMP WHERE JOB ='MANAGER';
```

Script Output | Query Result

SQL | All Rows Fetched: 3 in 0.007 seconds

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7566	JONES	MANAGER	7839	02-04-81	2975	(null)	20
2	7698	BLAKE	MANAGER	7839	01-05-81	2850	(null)	30
3	7782	CLARK	MANAGER	7839	09-06-81	2450	(null)	10

* Display all the details of the emps whose Comm. Is more than their Sal.

SELECT * FROM EMP WHERE COMM > SAL;

```
SELECT * FROM EMP WHERE COMM > SAL;
```

Script Output | Query Result

SQL | All Rows Fetched: 1 in 0.008 seconds

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7654	MARTIN	SALESMAN	7698	28-09-81	1250	1400	30

* List the emps who are either ‘CLERK’ or ‘ANALYST’ in the Desc order.

SELECT * FROM EMP WHERE JOB = 'CLERK' OR JOB = 'ANALYST';

```
SELECT * FROM EMP WHERE JOB = 'CLERK' OR JOB = 'ANALYST';
```

Script Output | Query Result

SQL | All Rows Fetched: 6 in 0.008 seconds

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7369	SMITH	CLERK	7902	17-12-80	800	(null)	20
2	7788	SCOTT	ANALYST	7566	09-12-82	3000	(null)	20
3	7876	ADAMS	CLERK	7788	12-01-83	1100	(null)	20
4	7900	JAMES	CLERK	7698	03-12-81	950	(null)	30
5	7902	FORD	ANALYST	7566	03-12-81	3000	(null)	20
6	7934	MILLER	CLERK	7782	23-01-82	1300	(null)	10

* List the emp who are working for the Deptno 10 or20.

SELECT * FROM EMP WHERE DEPTNO =10 OR DEPTNO=20;

```
SELECT * FROM EMP WHERE DEPTNO =10 OR DEPTNO=20;
```

cript Output | Query Result

SQL | All Rows Fetched: 8 in 0.012 seconds

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7369	SMITH	CLERK	7902	17-12-80	800	(null)	20
2	7566	JONES	MANAGER	7839	02-04-81	2975	(null)	20
3	7782	CLARK	MANAGER	7839	09-06-81	2450	(null)	10
4	7788	SCOTT	ANALYST	7566	09-12-82	3000	(null)	20
5	7839	KING	PRESIDENT	(null)	17-11-81	5000	(null)	10
6	7876	ADAMS	CLERK	7788	12-01-83	1100	(null)	20
7	7902	FORD	ANALYST	7566	03-12-81	3000	(null)	20
8	7934	MILLER	CLERK	7782	23-01-82	1300	(null)	10

* List the emps who are joined in the year 81.

SELECT * FROM EMP WHERE HIREDATE LIKE '%81';

```
SELECT * FROM EMP WHERE HIREDATE LIKE '%81';
```

Script Output | Query Result

SQL | All Rows Fetched: 10 in 0.01 seconds

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7499	ALLEN	SALESMAN	7698	20-02-81	1600	300	30
2	7521	WARD	SALESMAN	7698	22-02-81	1250	500	30
3	7566	JONES	MANAGER	7839	02-04-81	2975	(null)	20
4	7654	MARTIN	SALESMAN	7698	28-09-81	1250	1400	30
5	7698	BLAKE	MANAGER	7839	01-05-81	2850	(null)	30
6	7782	CLARK	MANAGER	7839	09-06-81	2450	(null)	10
7	7839	KING	PRESIDENT	(null)	17-11-81	5000	(null)	10
8	7844	TURNER	SALESMAN	7698	08-09-81	1500	0	30
9	7900	JAMES	CLERK	7698	03-12-81	950	(null)	30
10	7902	FORD	ANALYST	7566	03-12-81	3000	(null)	20

* List the emps Whose salary ranging from 2200 and 4500.

SELECT * FROM EMP WHERE SAL BETWEEN 2200 AND 4500;

```
SELECT * FROM EMP WHERE SAL BETWEEN 2200 AND 4500;
```

Script Output | Query Result

SQL | All Rows Fetched: 5 in 0.011 seconds

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7566	JONES	MANAGER	7839	02-04-81	2975	(null)	20
2	7698	BLAKE	MANAGER	7839	01-05-81	2850	(null)	30
3	7782	CLARK	MANAGER	7839	09-06-81	2450	(null)	10
4	7788	SCOTT	ANALYST	7566	09-12-82	3000	(null)	20
5	7902	FORD	ANALYST	7566	03-12-81	3000	(null)	20

* List the Enames those are having five characters in their Names.

SELECT ENAME FROM EMP WHERE LENGTH(ENAME)=5;

```
SELECT ENAME FROM EMP
WHERE LENGTH(ENAME)=5;
```

Script Output | Query Result | SQL | All Rows Fetched: 8 in 0.008 sec

	ENAME
1	SMITH
2	ALLEN
3	JONES
4	BLAKE
5	CLARK
6	SCOTT
7	ADAMS
8	JAMES

* List the Enames those are starting with ‘S’ and with five characters.

SELECT ENAME FROM EMP

WHERE ENAME LIKE 'S%' AND LENGTH(ENAME)=5;

Worksheet | Query Builder

```
SELECT ENAME FROM EMP
WHERE ENAME LIKE 'S%' AND LENGTH(ENAME)=5;
```

Script Output | Query Result | SQL | All Rows Fetched: 2 in 0.009 seconds

	ENAME
1	SMITH
2	SCOTT

* List the emps those are having four chars and third character must be ‘r’.

SELECT * FROM EMP

WHERE LENGTH(ENAME)=4 AND

ENAME LIKE '__r';

It returned zero rows because, no name satisfying both conditions.

```
SELECT * FROM EMP
WHERE LENGTH(ENAME)=4 AND
ENAME LIKE '__R';
```

cript Output × Query Result ×

SQL | All Rows Fetched: 0 in 0.054 seconds

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO

* List the Five character names starting with ‘S’ and ending with ‘H’.

SELECT ENAME FROM EMP

WHERE LENGTH(ENAME)=5 AND ENAME LIKE 'S%H';

```
SELECT ENAME FROM EMP
WHERE LENGTH(ENAME)=5 AND ENAME LIKE 'S%H';
```

Script Output × Query Result ×

SQL | All Rows Fetched: 1 in 0.002 seconds

	ENAME
1	SMITH

* List the emps whose Sal is four digit number ending with Zero.

SELECT * FROM EMP WHERE SAL BETWEEN 1000 AND 9999 AND SAL LIKE '%0';

```
SELECT *
FROM EMP
WHERE SAL BETWEEN 1000 AND 9999
AND SAL LIKE '%0';
```

Script Output × Query Result ×

SQL | All Rows Fetched: 11 in 0.052 seconds

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7499	ALLEN	SALESMAN	7698	20-02-81	1600	300	30
2	7521	WARD	SALESMAN	7698	22-02-81	1250	500	30
3	7654	MARTIN	SALESMAN	7698	28-09-81	1250	1400	30
4	7698	BLAKE	MANAGER	7839	01-05-81	2850	(null)	30
5	7782	CLARK	MANAGER	7839	09-06-81	2450	(null)	10
6	7788	SCOTT	ANALYST	7566	09-12-82	3000	(null)	20
7	7839	KING	PRESIDENT	(null)	17-11-81	5000	(null)	10
8	7844	TURNER	SALESMAN	7698	08-09-81	1500	0	30
9	7876	ADAMS	CLERK	7788	12-01-83	1100	(null)	20
10	7902	FORD	ANALYST	7566	03-12-81	3000	(null)	20
11	7934	MILLER	CLERK	7782	23-01-82	1300	(null)	10

* List the emps who does not belong to Deptno 20.

SELECT * FROM EMP WHERE DEPTNO NOT IN 20;

```
SELECT * FROM EMP WHERE DEPTNO NOT IN 20;
```

Script Output × Query Result ×

SQL | All Rows Fetched: 9 in 0.009 seconds

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7499	ALLEN	SALESMAN	7698	20-02-81	1600	300	30
2	7521	WARD	SALESMAN	7698	22-02-81	1250	500	30
3	7654	MARTIN	SALESMAN	7698	28-09-81	1250	1400	30
4	7698	BLAKE	MANAGER	7839	01-05-81	2850	(null)	30
5	7782	CLARK	MANAGER	7839	09-06-81	2450	(null)	10
6	7839	KING	PRESIDENT	(null)	17-11-81	5000	(null)	10
7	7844	TURNER	SALESMAN	7698	08-09-81	1500	0	30
8	7900	JAMES	CLERK	7698	03-12-81	950	(null)	30
9	7934	MILLER	CLERK	7782	23-01-82	1300	(null)	10

* List all the emps except ‘PRESIDENT’ & ‘MANAGER” in asc order of Salaries.

SELECT * FROM EMP WHERE JOB NOT IN ('PRESIDENT','MANAGER')

ORDER BY SAL;

```
SELECT * FROM EMP WHERE JOB NOT IN ('PRESIDENT','MANAGER')
ORDER BY SAL;
```

Script Output × Query Result ×

SQL | All Rows Fetched: 10 in 0.008 seconds

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7369	SMITH	CLERK	7902	17-12-80	800	(null)	20
2	7900	JAMES	CLERK	7698	03-12-81	950	(null)	30
3	7876	ADAMS	CLERK	7788	12-01-83	1100	(null)	20
4	7521	WARD	SALESMAN	7698	22-02-81	1250	500	30
5	7654	MARTIN	SALESMAN	7698	28-09-81	1250	1400	30
6	7934	MILLER	CLERK	7782	23-01-82	1300	(null)	10
7	7844	TURNER	SALESMAN	7698	08-09-81	1500	0	30
8	7499	ALLEN	SALESMAN	7698	20-02-81	1600	300	30
9	7902	FORD	ANALYST	7566	03-12-81	3000	(null)	20
10	7788	SCOTT	ANALYST	7566	09-12-82	3000	(null)	20

* List the emps whose Empno not starting with digit78.

SELECT * FROM EMP WHERE EMPNO LIKE '78%';

```
SELECT * FROM EMP WHERE EMPNO LIKE '78%';
```

Script Output | Query Result

SQL | All Rows Fetched: 3 in 0.008 seconds

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7839	KING	PRESIDENT	(null)	17-11-81	5000	(null)	10
2	7844	TURNER	SALESMAN	7698	08-09-81	1500	0	30
3	7876	ADAMS	CLERK	7788	12-01-83	1100	(null)	20

* empname start with A

SELECT * FROM EMP WHERE ENAME LIKE 'A%';

```
SELECT * FROM EMP WHERE ENAME LIKE 'A%';
```

Script Output | Query Result

SQL | All Rows Fetched: 2 in 0.028 seconds

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7499	ALLEN	SALESMAN	7698	20-02-81	1600	300	30
2	7876	ADAMS	CLERK	7788	12-01-83	1100	(null)	20

* empname contains A character

SELECT * FROM EMP WHERE ENAME LIKE '%A%';

```
SELECT * FROM EMP WHERE ENAME LIKE '%A%';
```

Script Output | Query Result

SQL | All Rows Fetched: 7 in 0.004 seconds

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7499	ALLEN	SALESMAN	7698	20-02-81	1600	300	30
2	7521	WARD	SALESMAN	7698	22-02-81	1250	500	30
3	7654	MARTIN	SALESMAN	7698	28-09-81	1250	1400	30
4	7698	BLAKE	MANAGER	7839	01-05-81	2850	(null)	30
5	7782	CLARK	MANAGER	7839	09-06-81	2450	(null)	10
6	7876	ADAMS	CLERK	7788	12-01-83	1100	(null)	20
7	7900	JAMES	CLERK	7698	03-12-81	950	(null)	30

* employee who joined in 1982

SELECT * FROM EMP WHERE HIREDATE LIKE '%82';

```
SELECT * FROM EMP WHERE HIREDATE LIKE '%82';
```

Script Output | Query Result

SQL | All Rows Fetched: 2 in 0.049 seconds

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
1	7788	SCOTT	ANALYST	7566	09-12-82	3000	(null)	20
2	7934	MILLER	CLERK	7782	23-01-82	1300	(null)	10

* employees whose name contains A more than once:

SELECT ENAME

FROM EMP

WHERE LENGTH(ENAME) - LENGTH(REPLACE(ENAME, 'A', '')) > 1;

```
SELECT ENAME
FROM EMP
WHERE LENGTH(ENAME) - LENGTH(REPLACE(ENAME, 'A', '')) > 1;
```

Script Output | Query Result

SQL | All Rows Fetched: 1 in 0.002 seconds

	ENAME
1	ADAMS