

PRACTICAL 3

A. Using emp table, perform the following queries:

1) Display the details of all employees.

```

SQL> connect system/jovial;
Connected.
SQL> set linesize 10000
SQL> set pagesize 10000
SQL> select * from EMP;

```

EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPT_NO
7839	KING	PRESIDENT		17-NOV-81	5000		10
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7788	SCOTT	ANALYST	7566	19-APR-87	3000		20
7902	FORD	ANALYST	7566	03-DEC-81	3000		20
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7876	ADAMS	CLERK	7788	23-MAY-87	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

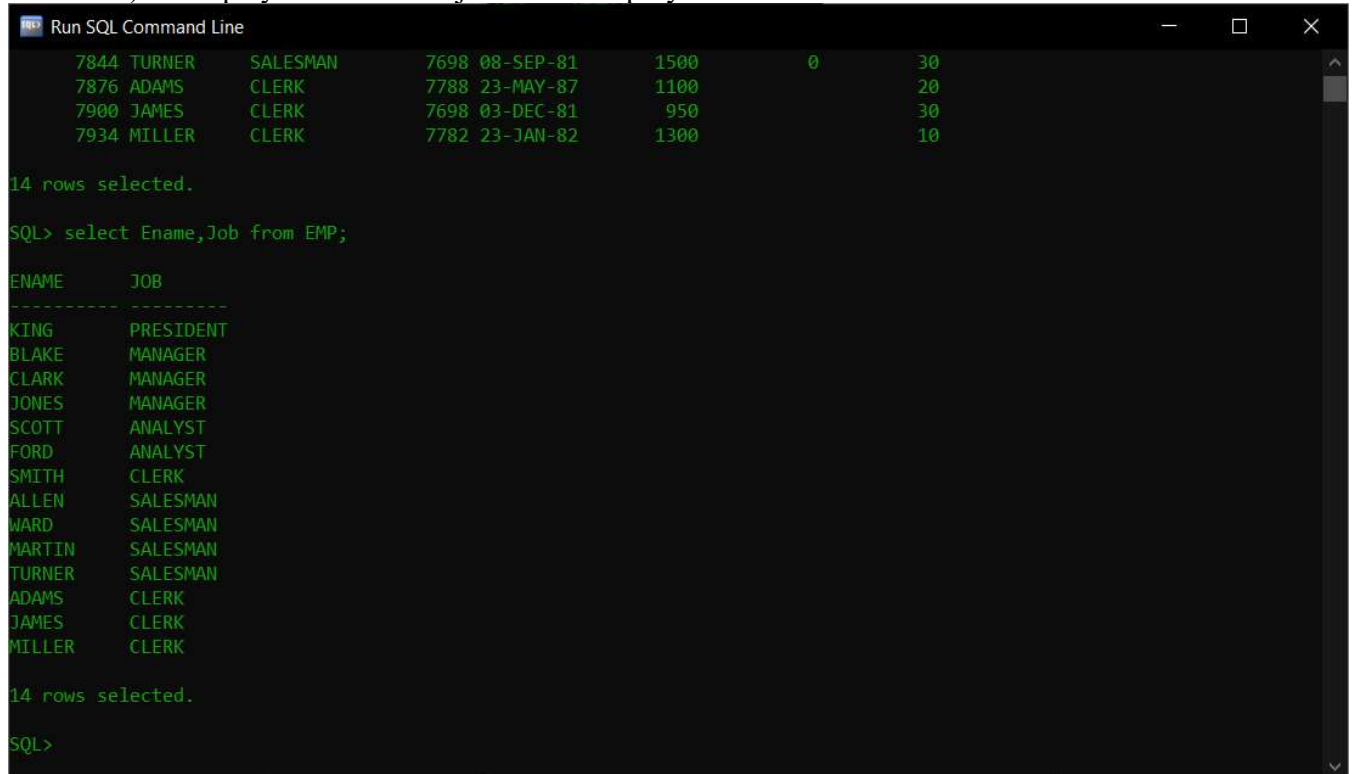
```

14 rows selected.

SQL>

```

2) Display the name and job for all employees.



The screenshot shows a 'Run SQL Command Line' window with a dark background. It displays the results of a query that selects employee names and jobs. The results are shown in two parts: a table with 7 columns and 4 rows, and a list of 14 rows selected. The query is 'select Ename,Job from EMP;'. The results are as follows:

7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7876	ADAMS	CLERK	7788	23-MAY-87	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

14 rows selected.

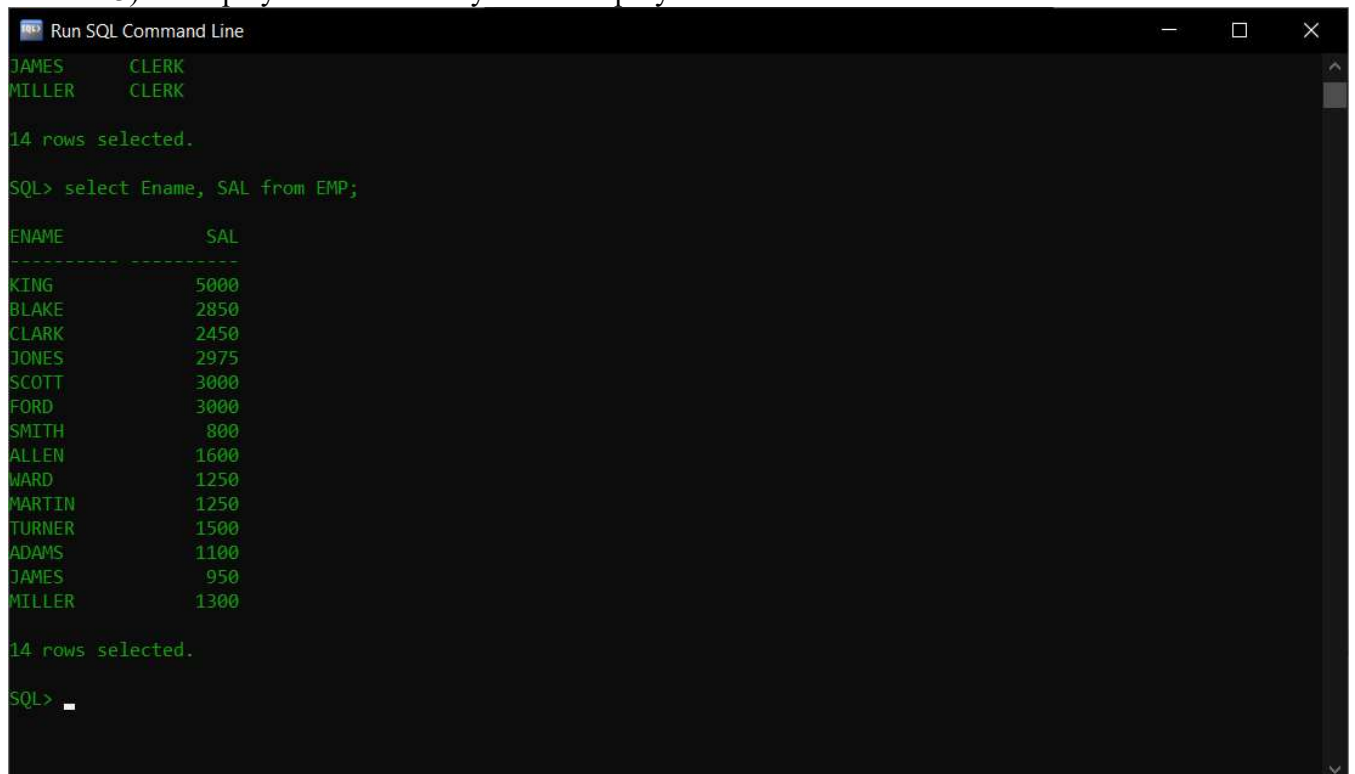
SQL> select Ename,Job from EMP;

ENAME	JOB
KING	PRESIDENT
BLAKE	MANAGER
CLARK	MANAGER
JONES	MANAGER
SCOTT	ANALYST
FORD	ANALYST
SMITH	CLERK
ALLEN	SALESMAN
WARD	SALESMAN
MARTIN	SALESMAN
TURNER	SALESMAN
ADAMS	CLERK
JAMES	CLERK
MILLER	CLERK

14 rows selected.

SQL>

3) Display name and salary for all employees.



The screenshot shows a 'Run SQL Command Line' window with a dark background. It displays the results of a query that selects employee names and salaries. The results are shown in two parts: a table with 2 columns and 2 rows, and a list of 14 rows selected. The query is 'select Ename, SAL from EMP;'. The results are as follows:

JAMES	CLERK
MILLER	CLERK

14 rows selected.

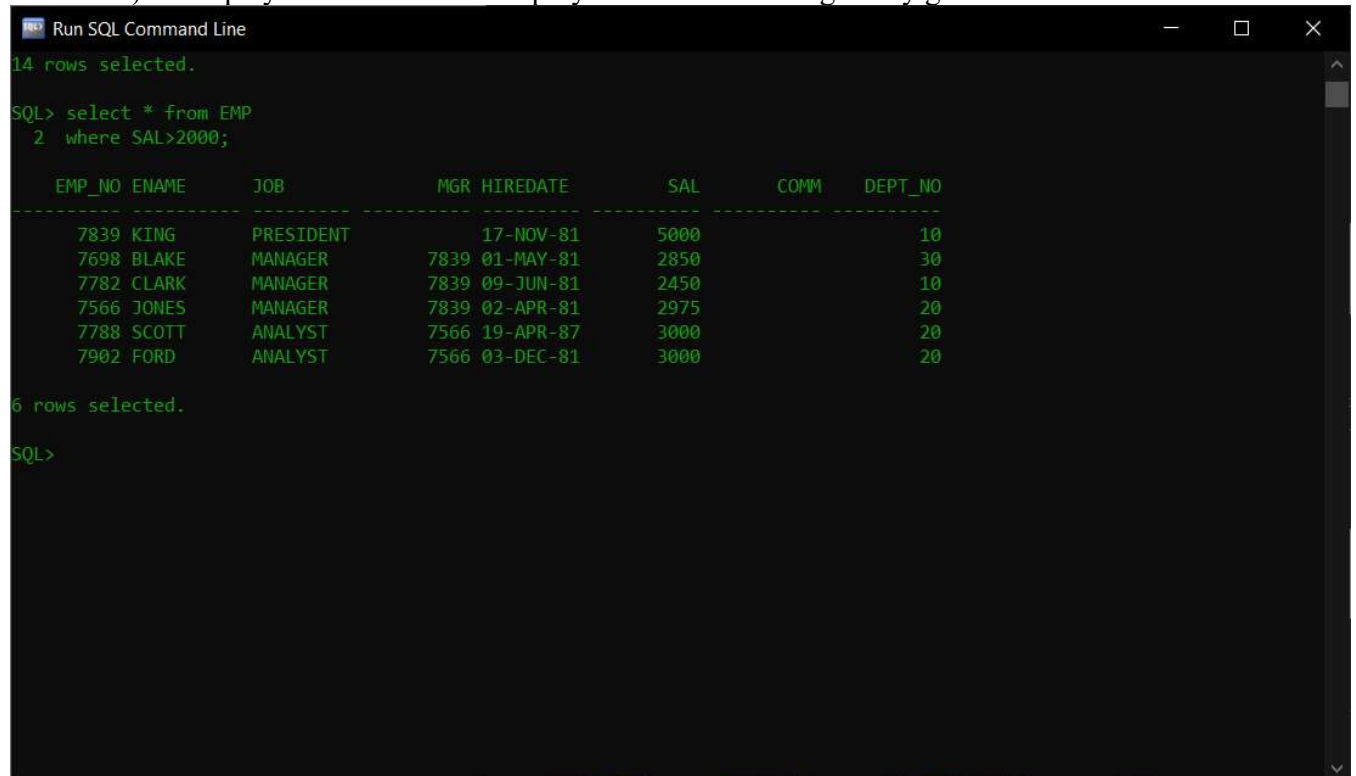
SQL> select Ename, SAL from EMP;

ENAME	SAL
KING	5000
BLAKE	2850
CLARK	2450
JONES	2975
SCOTT	3000
FORD	3000
SMITH	800
ALLEN	1600
WARD	1250
MARTIN	1250
TURNER	1500
ADAMS	1100
JAMES	950
MILLER	1300

14 rows selected.

SQL> .

4) Display the details of all employees who are earning salary greater than 2000.

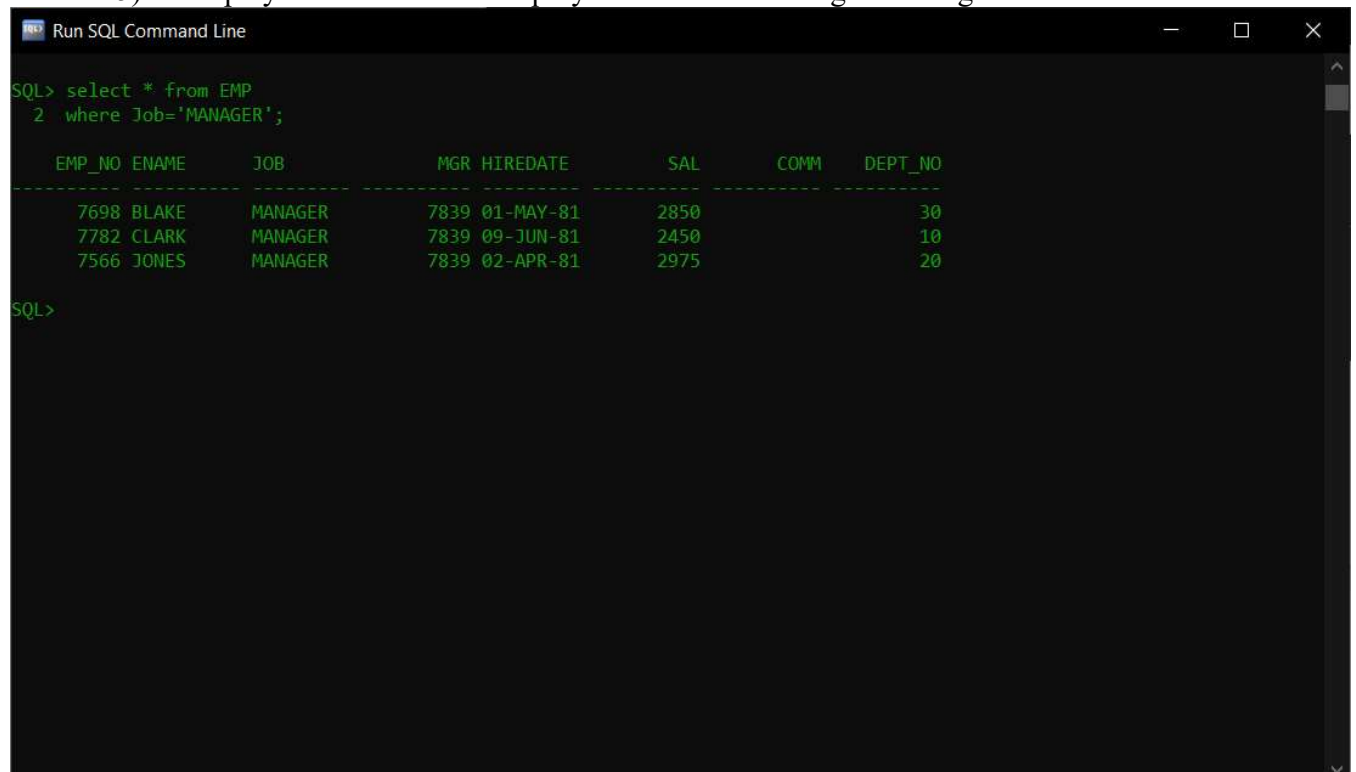


```
Run SQL Command Line
14 rows selected.
SQL> select * from EMP
2 where SAL>2000;

EMP_NO ENAME      JOB              MGR HIREDATE          SAL      COMM      DEPT_NO
-----
7839 KING        PRESIDENT              17-NOV-81      5000
7698 BLAKE        MANAGER              7839 01-MAY-81      2850
7782 CLARK        MANAGER              7839 09-JUN-81      2450
7566 JONES        MANAGER              7839 02-APR-81      2975
7788 SCOTT        ANALYST              7566 19-APR-87      3000
7902 FORD         ANALYST              7566 03-DEC-81      3000

6 rows selected.
SQL>
```

5) Display the details of all employees who are working as Manager.

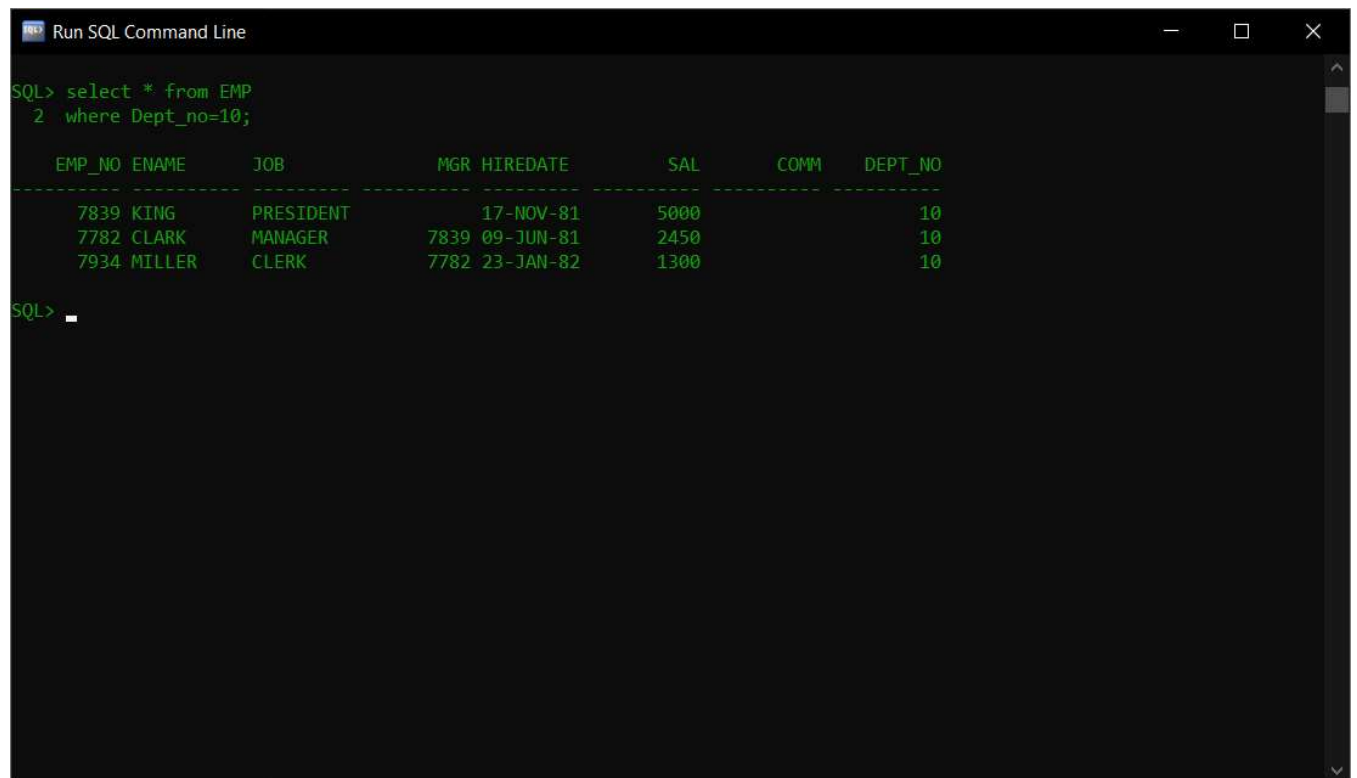


```
Run SQL Command Line
SQL> select * from EMP
2 where Job='MANAGER';

EMP_NO ENAME      JOB              MGR HIREDATE          SAL      COMM      DEPT_NO
-----
7698 BLAKE        MANAGER              7839 01-MAY-81      2850
7782 CLARK        MANAGER              7839 09-JUN-81      2450
7566 JONES        MANAGER              7839 02-APR-81      2975

SQL>
```

6) Display the names of all employees who are working in department number 10.



The screenshot shows a terminal window titled "Run SQL Command Line". The prompt is "SQL>". The user has entered the query "select * from EMP" and the results are displayed. The query is then modified to "2 where Dept_no=10;". The results are displayed in a table format with columns: EMP_NO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, and DEPT_NO. The results show three rows of data for department 10.

```
SQL> select * from EMP
2  where Dept_no=10;
```

EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPT_NO
7839	KING	PRESIDENT		17-NOV-81	5000		10
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

```
SQL> _
```

- 7) Display the names of all employees working as clerk and drawing a salary more than 3000.

```
Run SQL Command Line

SQL> select * from EMP
  2  where Dept_no=10;

  EMP_NO ENAME      JOB          MGR HIREDATE          SAL      COMM      DEPT_NO
-----
    7839 KING        PRESIDENT      17-NOV-81      5000
    7782 CLARK        MANAGER       7839 09-JUN-81      2450
    7934 MILLER        CLERK         7782 23-JAN-82      1300
    7934 MILLER        CLERK         7782 23-JAN-82      1300

SQL> select * from EMP
  2  where Job='CLERK' and SAL>3000;

no rows selected

SQL>
```

- 8) Display employee number and names for employees who earn commission.

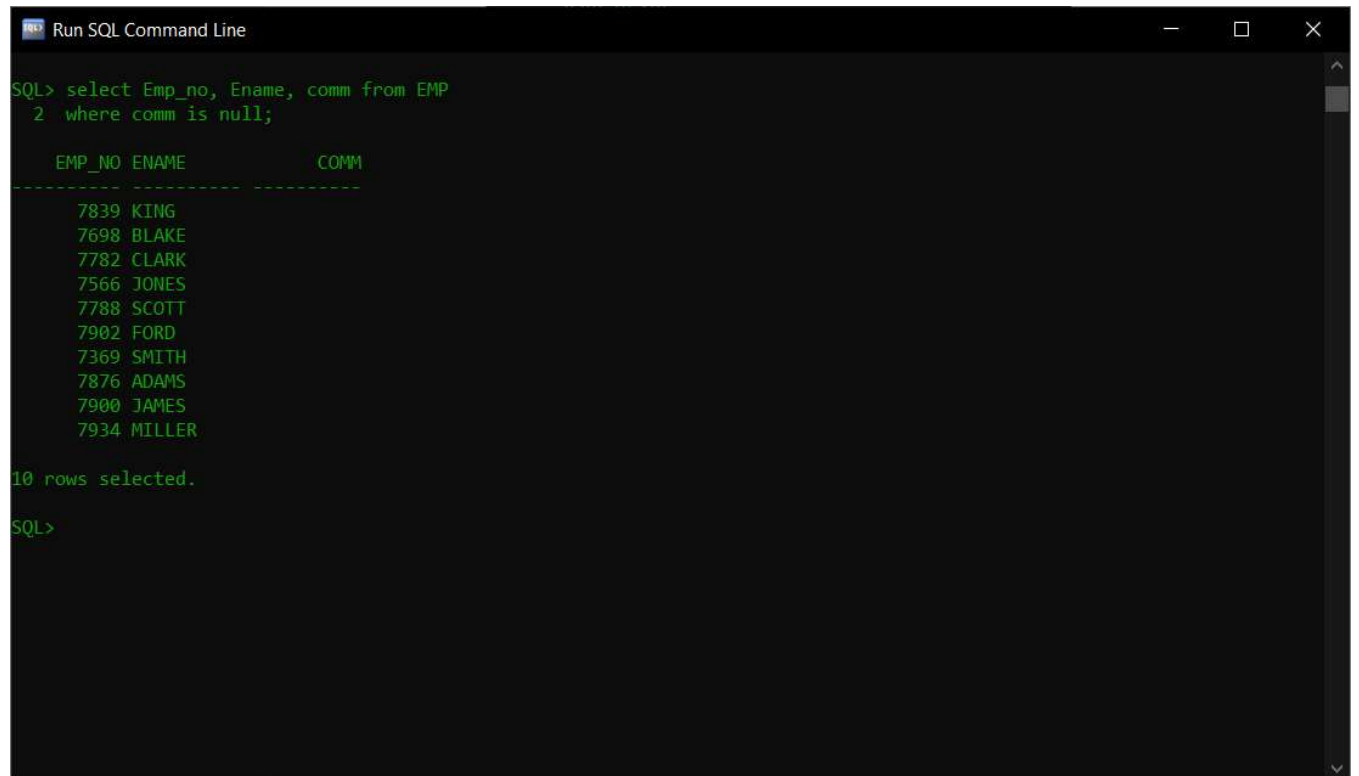
```
Run SQL Command Line

SQL> select Emp_no, Ename, comm from EMP
  2  where comm>0;

  EMP_NO ENAME      COMM
-----
    7499 ALLEN        300
    7521 WARD         500
    7654 MARTIN      1400

SQL>
```

- 9) Display names of employees who do not earn any commission.



The screenshot shows a terminal window titled "Run SQL Command Line". The user has entered the following SQL query:

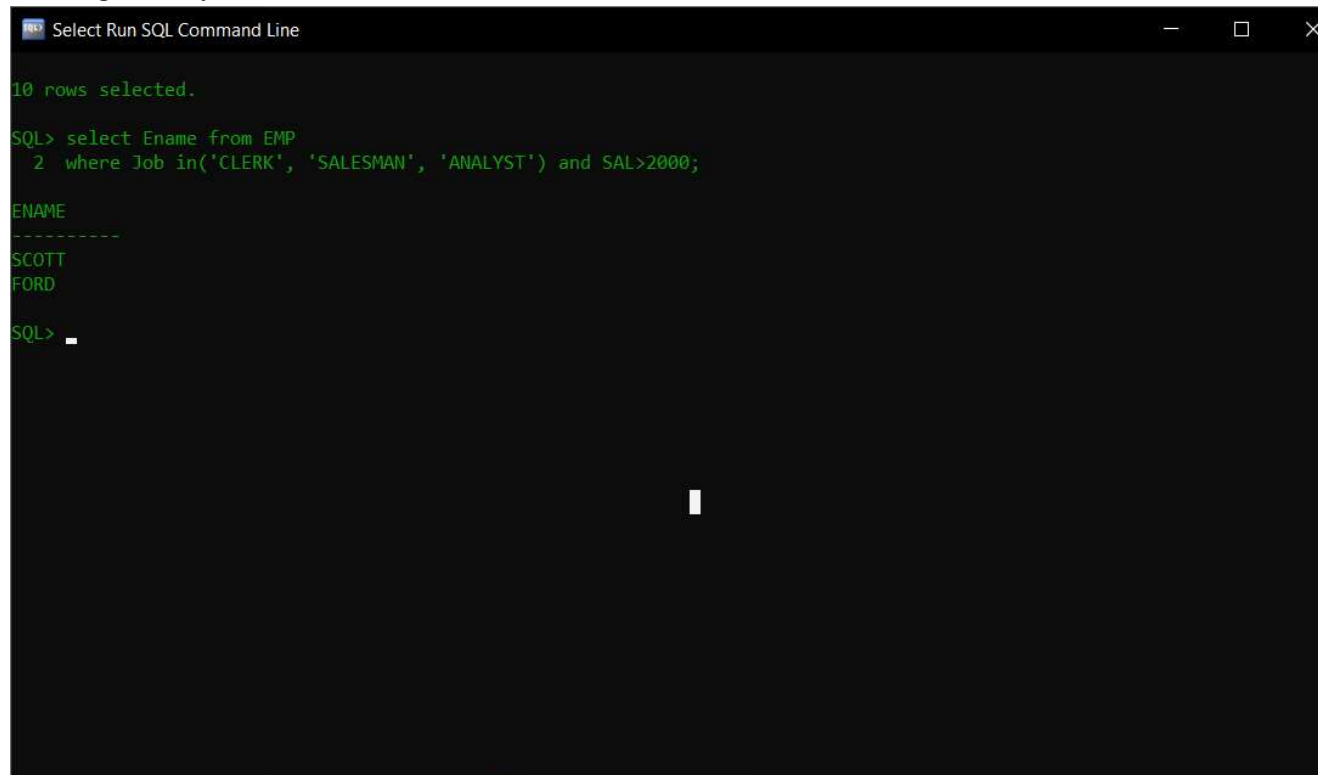
```
SQL> select Emp_no, Ename, comm from EMP
2 where comm is null;
```

The results are displayed in a table with three columns: EMP_NO, ENAME, and COMM. The data is as follows:

EMP_NO	ENAME	COMM
7839	KING	
7698	BLAKE	
7782	CLARK	
7566	JONES	
7788	SCOTT	
7902	FORD	
7369	SMITH	
7876	ADAMS	
7900	JAMES	
7934	MILLER	

Below the table, the text "10 rows selected." is displayed. The prompt "SQL>" is shown at the bottom of the window.

10) Display the names of employees who are working as clerk, salesman or analyst and drawing a salary more than 2000.



```
Select Run SQL Command Line

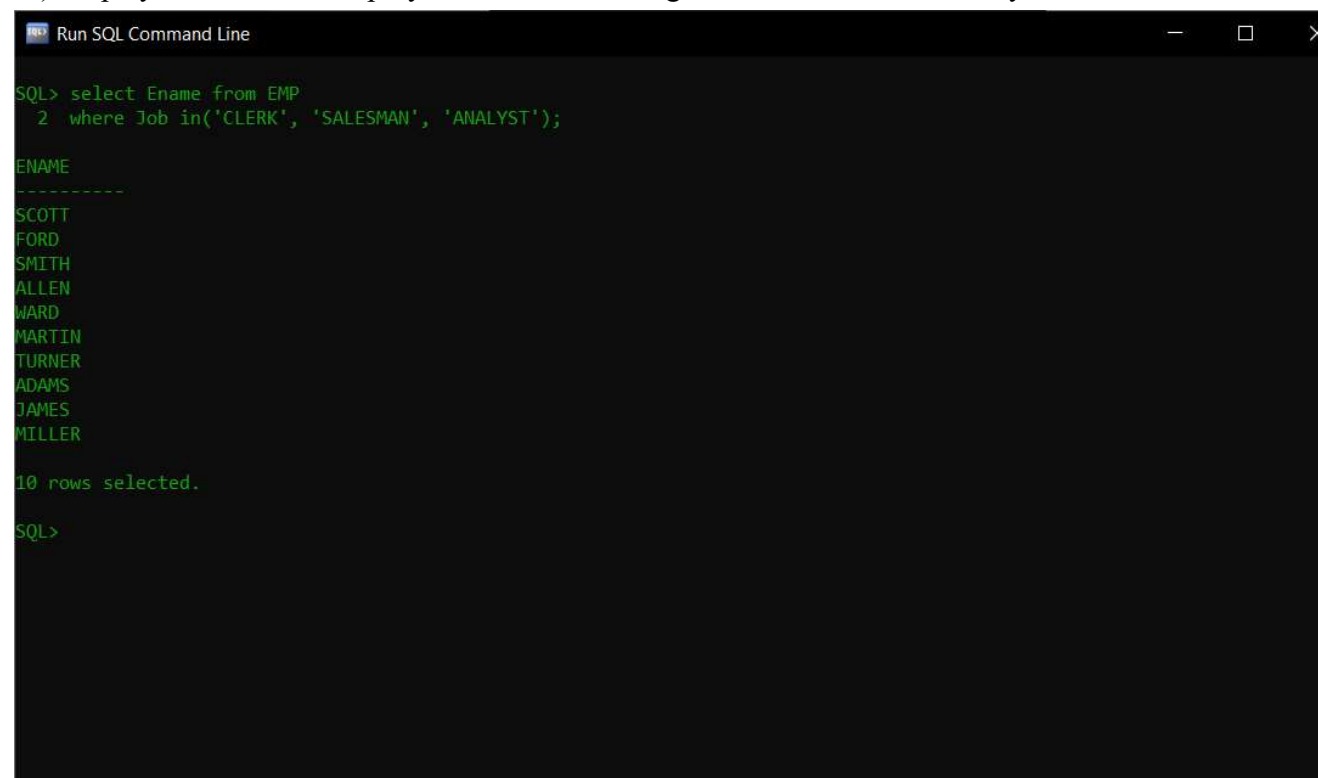
10 rows selected.

SQL> select Ename from EMP
  2  where Job in('CLERK', 'SALESMAN', 'ANALYST') and SAL>2000;

ENAME
-----
SCOTT
FORD

SQL> _
```

11) Display the names of employees who are working as clerk, salesman or analyst.



```
Run SQL Command Line

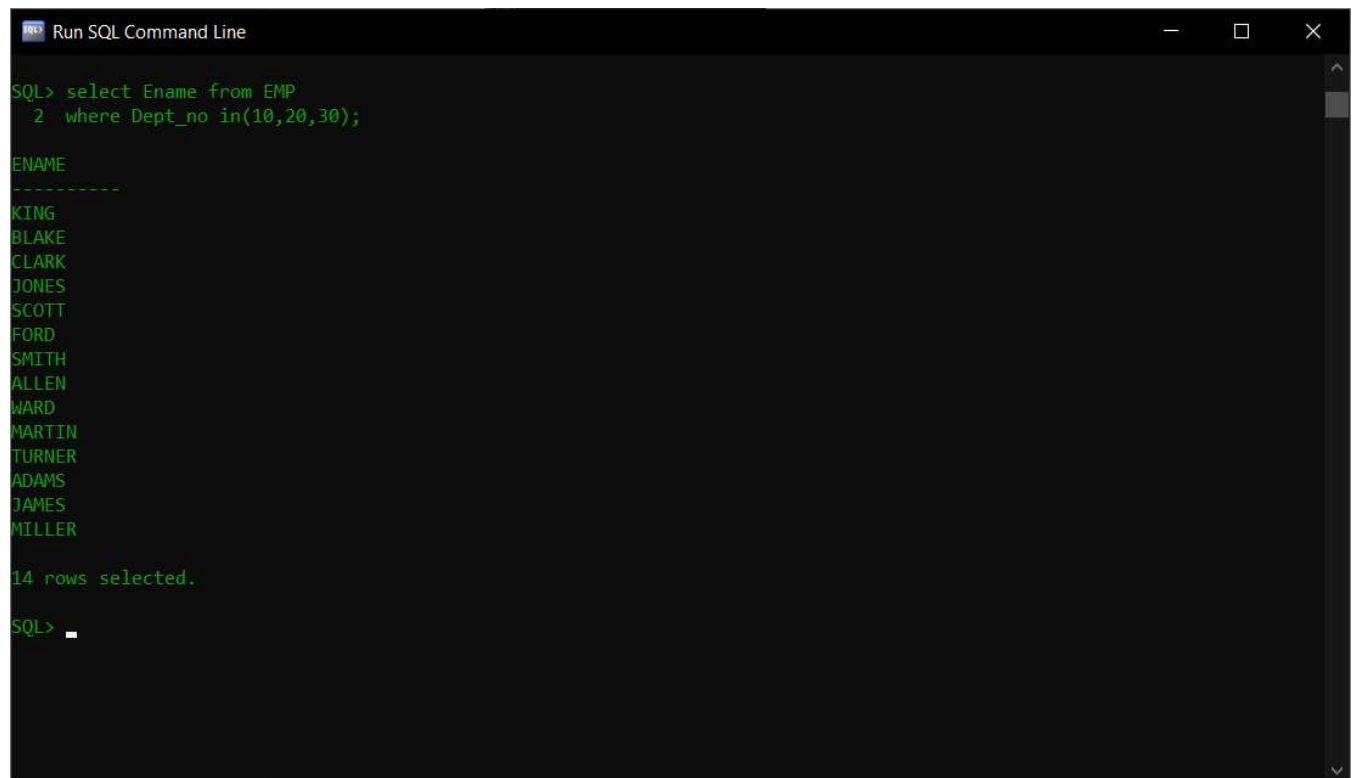
SQL> select Ename from EMP
  2  where Job in('CLERK', 'SALESMAN', 'ANALYST');

ENAME
-----
SCOTT
FORD
SMITH
ALLEN
WARD
MARTIN
TURNER
ADAMS
JAMES
MILLER

10 rows selected.

SQL>
```

12) Display the names of employees working in department number 10 or 20 or 30.



The screenshot shows a terminal window titled "Run SQL Command Line". The window has a dark background with green text. The SQL query entered is: `SQL> select Ename from EMP
2 where Dept_no in(10,20,30);`. The results are listed as follows:

ENAME
KING
BLAKE
CLARK
JONES
SCOTT
FORD
SMITH
ALLEN
WARD
MARTIN
TURNER
ADAMS
JAMES
MILLER

Below the list, it says "14 rows selected." and the prompt "SQL> " is visible at the bottom.

13) Display the details of employees whose salary lies in the range of 1000 and 2000.

```
Run SQL Command Line
SQL> select * from EMP
2 where SAL between 1000 and 3000;
```

EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPT_NO
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7788	SCOTT	ANALYST	7566	19-APR-87	3000		20
7902	FORD	ANALYST	7566	03-DEC-81	3000		20
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7876	ADAMS	CLERK	7788	23-MAY-87	1100		20
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

```
11 rows selected.
SQL>
```

14) List the employees in the ascending order of their salaries.

```
Run SQL Command Line
SQL> select * from Emp
2 order by SAL ASC;
```

EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPT_NO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7876	ADAMS	CLERK	7788	23-MAY-87	1100		20
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7934	MILLER	CLERK	7782	23-JAN-82	1300		10
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7902	FORD	ANALYST	7566	03-DEC-81	3000		20
7788	SCOTT	ANALYST	7566	19-APR-87	3000		20
7839	KING	PRESIDENT		17-NOV-81	5000		10

```
14 rows selected.
SQL>
```

15) List the Empno, Ename, Sal of all emps working for Mgr 7369.

```
Run SQL Command Line
SQL> select Emp_no, Ename, SAL from EMP
2  where MGR=7369;

no rows selected

SQL>
```

16) List the employees who are either 'CLERK' or 'ANALYST' in the Desc order.

```
Run SQL Command Line
SQL> select * from EMP where Job='CLERK' or Job='ANALYST'
2  order by Job desc;

EMP_NO  ENAME      JOB          MGR  HIREDATE      SAL      COMM      DEPT_NO
-----
7369 SMITH      CLERK        7902 17-DEC-80      800
7900 JAMES      CLERK        7698 03-DEC-81      950
7934 MILLER    CLERK        7782 23-JAN-82     1300
7876 ADAMS      CLERK        7788 23-MAY-87     1100
7902 FORD      ANALYST      7566 03-DEC-81     3000
7788 SCOTT      ANALYST      7566 19-APR-87     3000

6 rows selected.

SQL>
```

17) List the employees who are working in Deptno 10 or 20.

```
Run SQL Command Line

SQL> select * from EMP
2  where Dept_no in(10,20);

EMP_NO  ENAME      JOB          MGR  HIREDATE          SAL      COMM      DEPT_NO
-----
7839 KING      PRESIDENT    17-NOV-81      5000
7782 CLARK      MANAGER      7839 09-JUN-81      2450
7566 JONES      MANAGER      7839 02-APR-81      2975
7788 SCOTT     ANALYST      7566 19-APR-87      3000
7902 FORD      ANALYST      7566 03-DEC-81      3000
7369 SMITH     CLERK        7902 17-DEC-80       800
7876 ADAMS     CLERK        7788 23-MAY-87      1100
7934 MILLER    CLERK        7782 23-JAN-82      1300

8 rows selected.

SQL>
```

18) List the employees whose name have a character set 'll' together.

```
Run SQL Command Line
SQL> select * from EMP
2 where Ename like '%ll%';
```

EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPT_NO
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

```
SQL>
```

19) List the employees in ascending order of their names.

```
Select Run SQL Command Line
SQL> select * from EMP
2 order by Ename ASC;
```

EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPT_NO
7876	ADAMS	CLERK	7788	23-MAY-87	1100		20
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7902	FORD	ANALYST	7566	03-DEC-81	3000		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7839	KING	PRESIDENT		17-NOV-81	5000		10
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7934	MILLER	CLERK	7782	23-JAN-82	1300		10
7788	SCOTT	ANALYST	7566	19-APR-87	3000		20
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30

```
14 rows selected.
SQL>
```

20) List the employees in descending order of their names.

```
Run SQL Command Line

SQL> select * from EMP
2 order by Ename DESC;

EMP_NO  ENAME      JOB              MGR  HIREDATE          SAL      COMM      DEPT_NO
-----
7521 WARD      SALESMAN        7698 22-FEB-81        1250      500       30
7844 TURNER   SALESMAN        7698 08-SEP-81        1500        0       30
7369 SMITH    CLERK           7902 17-DEC-80         800       0       20
7788 SCOTT    ANALYST         7566 19-APR-87        3000       0       20
7934 MILLER   CLERK           7782 23-JAN-82        1300       0       10
7654 MARTIN   SALESMAN        7698 28-SEP-81        1250     1400       30
7839 KING      PRESIDENT       17-NOV-81        5000       0       10
7566 JONES      MANAGER         7839 02-APR-81        2975       0       20
7900 JAMES     CLERK           7698 03-DEC-81         950       0       30
7902 FORD       ANALYST         7566 03-DEC-81        3000       0       20
7782 CLARK      MANAGER         7839 09-JUN-81        2450       0       10
7698 BLAKE     MANAGER         7839 01-MAY-81        2850       0       30
7499 ALLEN     SALESMAN        7698 20-FEB-81        1600      300       30
7876 ADAMS     CLERK           7788 23-MAY-87        1100       0       20

14 rows selected.

SQL>
```

21) List the employees who do not belong to Deptno 20.

```
Run SQL Command Line

SQL> select * from EMP
2 where Dept_no not in 20;

EMP_NO  ENAME      JOB              MGR  HIREDATE          SAL      COMM      DEPT_NO
-----
7839 KING      PRESIDENT       17-NOV-81        5000       0       10
7698 BLAKE     MANAGER         7839 01-MAY-81        2850       0       30
7782 CLARK      MANAGER         7839 09-JUN-81        2450       0       10
7499 ALLEN     SALESMAN        7698 20-FEB-81        1600      300       30
7521 WARD      SALESMAN        7698 22-FEB-81        1250      500       30
7654 MARTIN   SALESMAN        7698 28-SEP-81        1250     1400       30
7844 TURNER   SALESMAN        7698 08-SEP-81        1500        0       30
7900 JAMES     CLERK           7698 03-DEC-81         950       0       30
7934 MILLER   CLERK           7782 23-JAN-82        1300       0       10

9 rows selected.

SQL>
```

22) List all the employees except PRESIDENT and MANAGER.

```
Run SQL Command Line
SQL> select * from EMP
2 where Job not in('PRESIDENT', 'MANAGER');

EMP_NO ENAME      JOB            MGR HIREDATE          SAL      COMM      DEPT_NO
-----
7788 SCOTT        ANALYST        7566 19-APR-87          3000              20
7902 FORD          ANALYST        7566 03-DEC-81          3000              20
7369 SMITH         CLERK          7902 17-DEC-80           800              20
7499 ALLEN          SALESMAN       7698 20-FEB-81          1600           300      30
7521 WARD            SALESMAN       7698 22-FEB-81          1250           500      30
7654 MARTIN        SALESMAN       7698 28-SEP-81          1250          1400      30
7844 TURNER         SALESMAN       7698 08-SEP-81          1500              0      30
7876 ADAMS          CLERK          7788 23-MAY-87          1100              20
7900 JAMES          CLERK          7698 03-DEC-81           950              30
7934 MILLER         CLERK          7782 23-JAN-82          1300              10

10 rows selected.

SQL>
```

23) List the employees whose name starts with A.

```
Run SQL Command Line
SQL> select * from EMP
2 where Ename like 'A%';

EMP_NO ENAME      JOB            MGR HIREDATE          SAL      COMM      DEPT_NO
-----
7499 ALLEN          SALESMAN       7698 20-FEB-81          1600           300      30
7876 ADAMS          CLERK          7788 23-MAY-87          1100              20

SQL>
```

24) List all the Clerks of Deptno 20.

```
Run SQL Command Line
SQL> select * from EMP
2 where Job='CLERK' and Dept_no=20;

EMP_NO ENAME      JOB            MGR HIREDATE          SAL      COMM      DEPT_NO
-----
7369 SMITH         CLERK          7902 17-DEC-80           800              20
7876 ADAMS          CLERK          7788 23-MAY-87          1100              20

SQL>
```

25) List the employees whose names ends with S.

```
Run SQL Command Line
SQL> select * from EMP
2  where Ename like '%S';
```

EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPT_NO
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7876	ADAMS	CLERK	7788	23-MAY-87	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30

```
SQL>
```

26) List the employees who has name of exactly 4 characters.

```
Run SQL Command Line
SQL> select * from EMP
2  where Ename like '____';
```

EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPT_NO
7839	KING	PRESIDENT		17-NOV-81	5000		10
7902	FORD	ANALYST	7566	03-DEC-81	3000		20
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30

27) List the names of the employees who are working as MANAGER in department 10.

```
Run SQL Command Line
SQL> select * from EMP
2  where Job='MANGER' and Dept_no=10;
```

no rows selected

28) List the total salary of employees working as ANALYST.



The screenshot shows a terminal window titled "Run SQL Command Line" with a small icon. The terminal has a dark background with green text. It displays an SQL query and its output.

```
SQL> select sum(SAL)
      2  from EMP
      3  where Job='ANALYST';

SUM(SAL)
-----
      6000
```


29) List the minimum, maximum and average salary of the employees.

```
Run SQL Command Line

SQL> select MIN(SAL),MAX(SAL),AVG(SAL) from EMP;

  MIN(SAL)    MAX(SAL)    AVG(SAL)
-----
      800      5000  2073.21429
```

30) List the total number of employees working in department 10.

```
Run SQL Command Line

SQL> Select Dept_no, count(*) from EMP
2  group by Dept_no;

  DEPT_NO    COUNT(*)
-----
      30         6
      20         5
      10         3
```

Answer the following queries:

1) Display the total salary of employees department wise.

```
Run SQL Command Line

SQL> Select Dept_no, sum(SAL) from EMP
2  group by Dept_no
3  ;

  DEPT_NO    SUM(SAL)
-----
      30      9400
      20     10875
      10      8750
```

- 2) Display the total salary of employees job wise in ascending order of job.

```
SQL> select Job,sum(SAL)
2  from EMP
3  group by Job order by Job ASC;
```

JOB	SUM(SAL)
ANALYST	6000
CLERK	4150
MANAGER	8275
PRESIDENT	5000
SALESMAN	5600

- 3) Display the total number of employees with a specific job.

```
SQL> select Job,count(*)
2  from EMP
3  group by Job;
```

JOB	COUNT(*)
CLERK	4
SALESMAN	4
PRESIDENT	1
MANAGER	3
ANALYST	2

- 4) Display the total number of employees working in each department.

```
SQL> Run SQL Command Line
SQL> select Dept_no,count(*)
2  from EMP
3  group by Dept_no;

  DEPT_NO    COUNT(*)
-----
      30         6
      20         5
      10         3
```

- 5) Display the total salary of employees specific to job and department in ascending order of job.

```
SQL> Run SQL Command Line
SQL> select Job,Dept_no, sum(SAL)
2  from EMP
3  group by Job,Dept_no
4  order by Job;

JOB          DEPT_NO    SUM(SAL)
-----
ANALYST      20         6000
CLERK        10         1300
CLERK        20         1900
CLERK        30          950
MANAGER      10         2450
MANAGER      20         2975
MANAGER      30         2850
PRESIDENT    10         5000
SALESMAN     30         5600
```

- 6) Display the total salary of the employees specific to the job when employee count is greater than 1.

```
SQL> Run SQL Command Line
SQL> select sum(SAL), count(Job) from EMP
2  group by Job
3  having count(Job)>1;

SUM(SAL) COUNT(JOB)
-----
4150      4
5600      4
8275      3
6000      2
```

- 7) Display unique jobs of employees.

```
SQL> Run SQL Command Line
SQL> select distinct Job from EMP;

JOB
-----
CLERK
SALESMAN
PRESIDENT
MANAGER
ANALYST
```