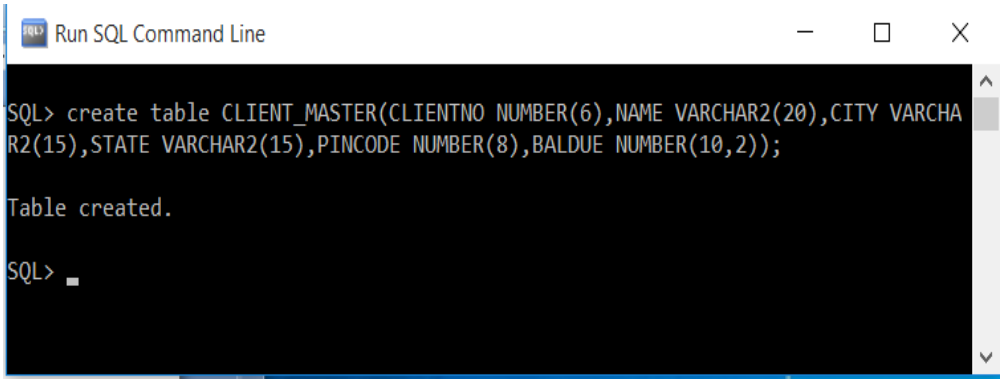
EXERCISE NO: 1

AIM : TO ILLUSTRATE THE DDL COMMANDS

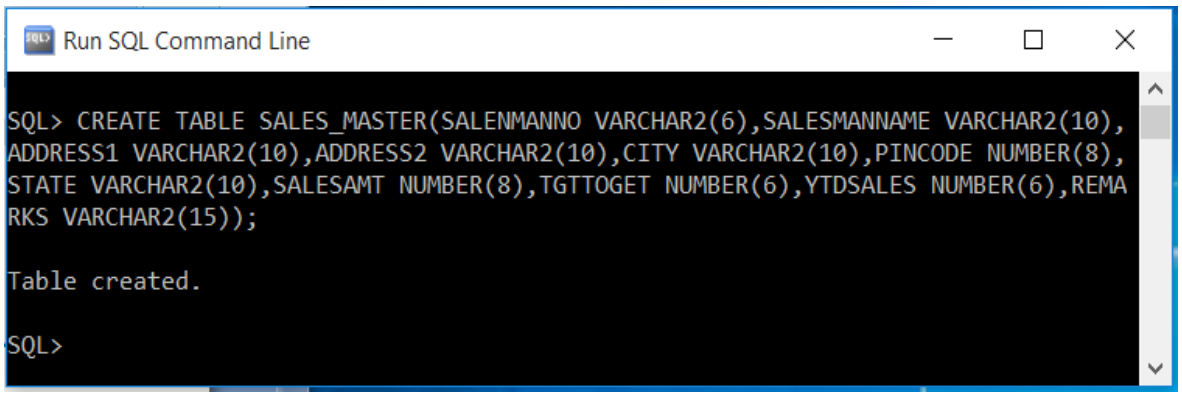
1) CREATE A TABLE CALLED 'CLIENT_MASTER' WITH THE FOLLOWING STRUCTURE

COLUMN NAME	DATATYPE	SIZE
CLIENTNO	NUMBER	6
NAME	VARCHAR2	20
CITY	VARCHAR2	15
STATE	VARCHAR2	15
PINCODE	NUMBER	8
BALDUE	NUMBER	10,2



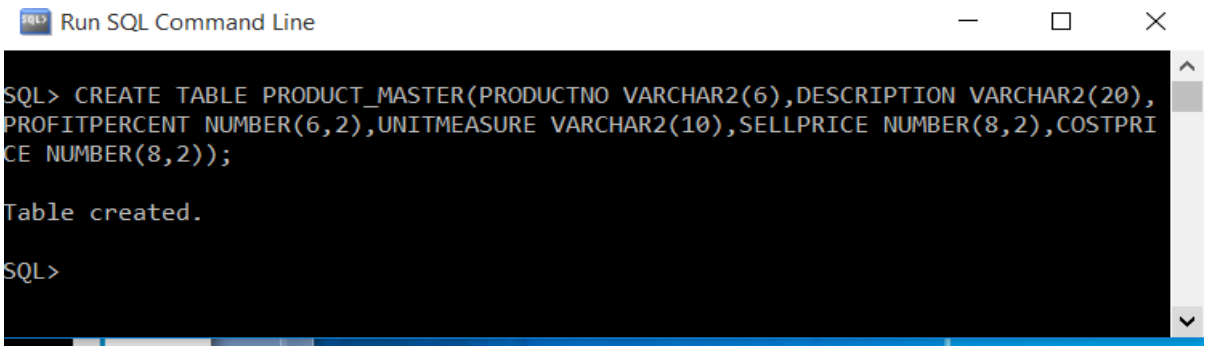
2) CREATE A TABLE CALLED 'SALES_MASTER' WITH THE FOLLOWING STRUCTURE

COLUMN NAME	DATATYPE	SIZE
SALESMANNO	VARCHAR2	6
SALESMANNAME	VARCHAR2	10
ADDRESS1	VARCHAR2	10
ADDRESS2	VARCHAR2	10
CITY	VARCHAR2	10
PINCODE	NUMBER	8
STATE	VARCHAR2	10
SALESAMT	NUMBER	8
TGTTOGET	NUMBER	6
YTDSALES	NUMBER	6
REMARKS	VARCHAR2	15



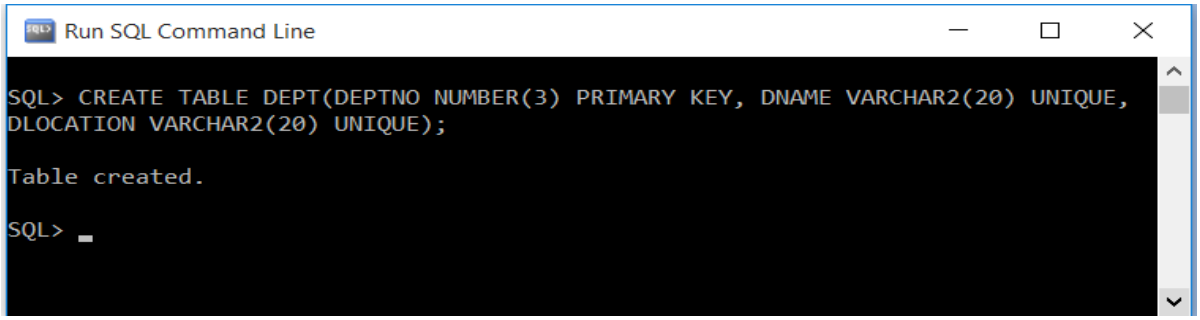
3) CREATE A TABLE CALLED 'PRODUCT_MASTER' WITH THE FOLLOWING STRUCTURE

COLUMN NAME	DATATYPE	SIZE
PRODUCTNO	VARCHAR2	6
DESCRIPTION	VARCHAR2	20
PROFITPERCENT	NUMBER	6,2
UNITMEASURE	VARCHAR2	10
SELLPRICE	NUMBER	8,2
COSTPRICE	NUMBER	8,2



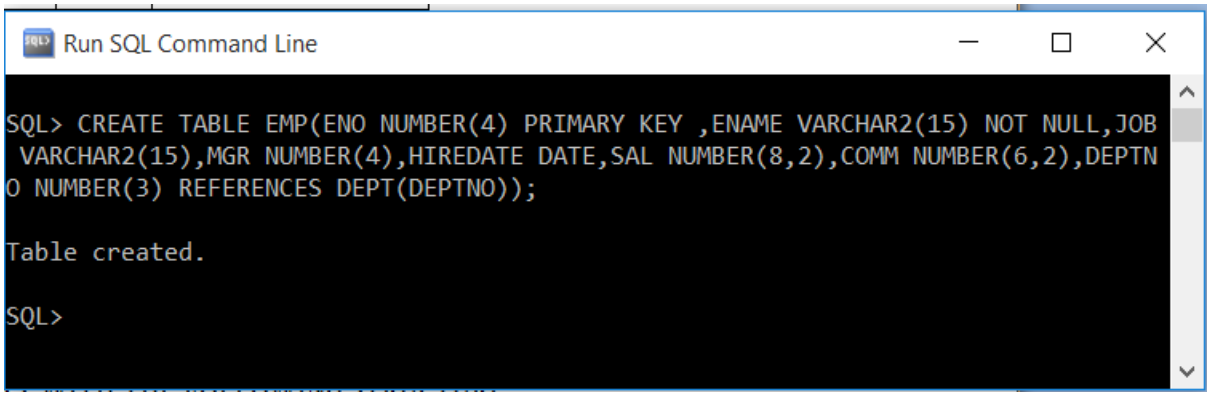
4) CREATE A TABLE CALLED 'DEPT' WITH THE FOLLOWING STRUCTURE

COLUMN NAME	DATATYPE	SIZE	CONSTRAINTS
DEPTNO	NUMBER	3	PRIMARK KEY
DNAME	VARCHAR2	20	UNIQUE
DLOCATION	VARCHAR2	20	UNIQUE



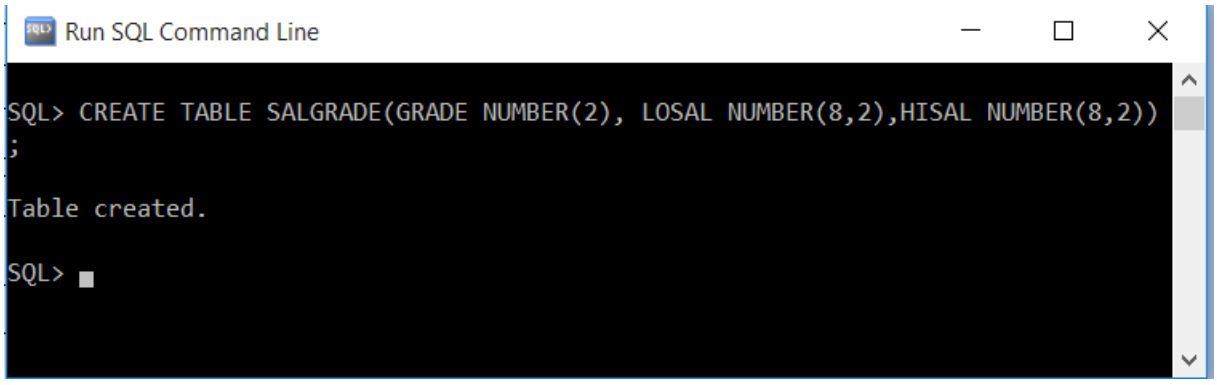
5) CREATE A TABLE CALLED 'EMP' WITH THE FOLLOWING STRUCTURE

COLUMN NAME	DATATYPE	SIZE	CONSTRAINTS
ENO	NUMBER	4	PRIMARY KEY
ENAME	VARCHA2	15	NOT NULL
J0B	VARCHAR2	15	
MGR	NUMBER	4	
HIREDATE	DATE		
SAL	NUMBER	8,2	
COMM	NUMBER	6,2	
DEPTNO	NUMBER	3	FOREIGN KEY



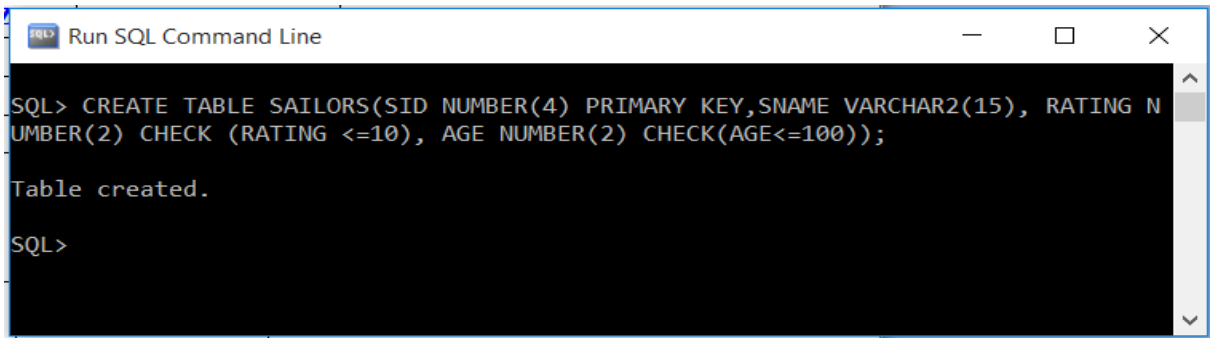
6) CREATE A TABLE CALLED 'SALGRADE' WITH THE FOLLOWING STRUCTURE

COLUMN NAME	DATATYPE	SIZE
GRADE	NUMBER	2
LOSAL	NUMBER	8,2
HISAL	NUMBER	8,2



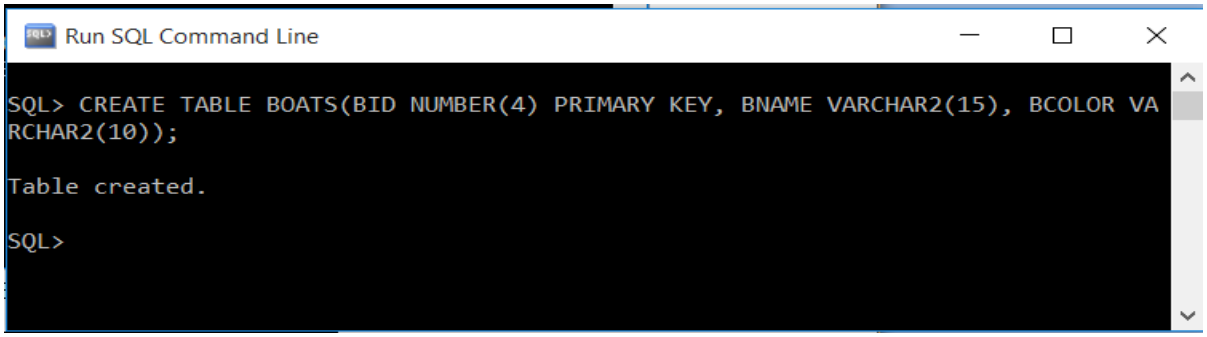
7) CREATE A TABLE CALLED 'SAILORS' WITH THE FOLLOWING STRUCTURE

COLUMN NAME	DATATYPE	SIZE	CONSTRAINTS
SID	NUMBER	4	PRIMARY KEY
SNAME	VARCHAR2	15	
RATING	NUMBER	2	CHECK
AGE	NUMBER	2	CHECK



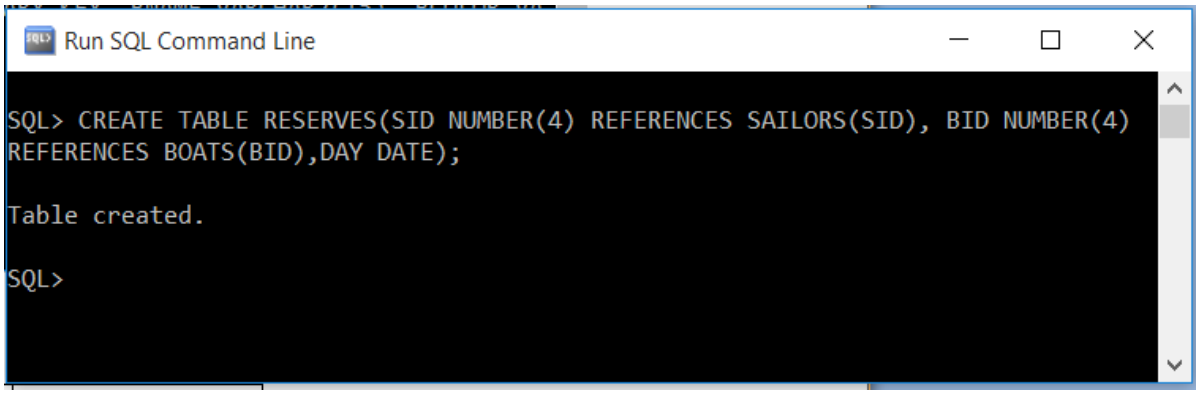
8) CREATE A TABLE CALLED 'BOATS' WITH THE FOLLOWING STRUCTURE

COLUMN NAME	DATATYPE	SIZE	CONSTRAINTS
BID	NUMBER	4	PRIMARY KEY
BNAME	VARCHAR2	15	
BCOLOR	VARCHAR2	10	

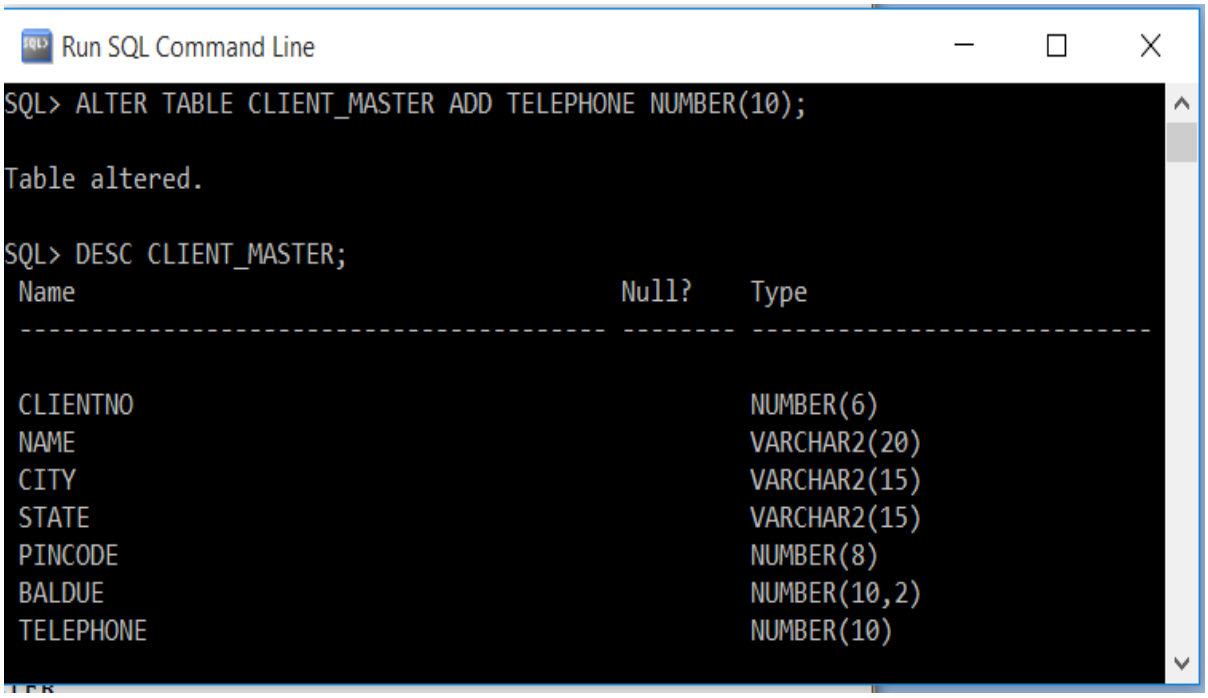


9) CREATE A TABLE CALLED 'RESERVES' WITH THE FOLLOWING STRUCTURE

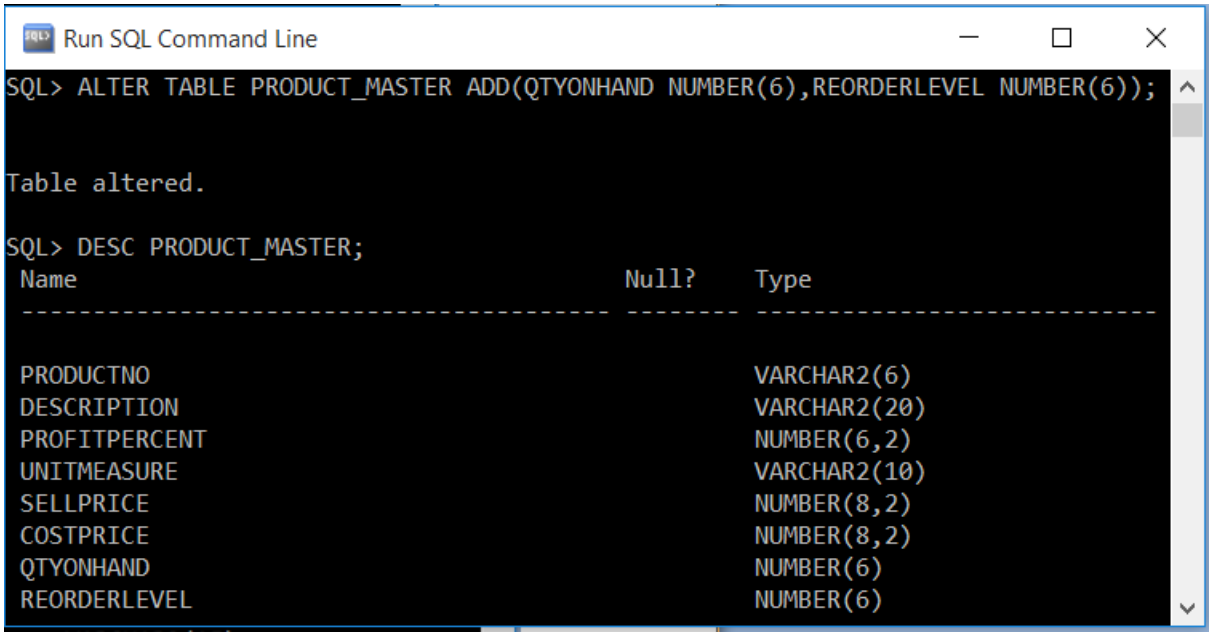
COLUMN NAME	DATATYPE	SIZE	CONSTRAINTS
SID	NUMBER	4	FOREIGN KEY
BID	NUMBER	4	FOREIGN KEY
DAY	DATE		



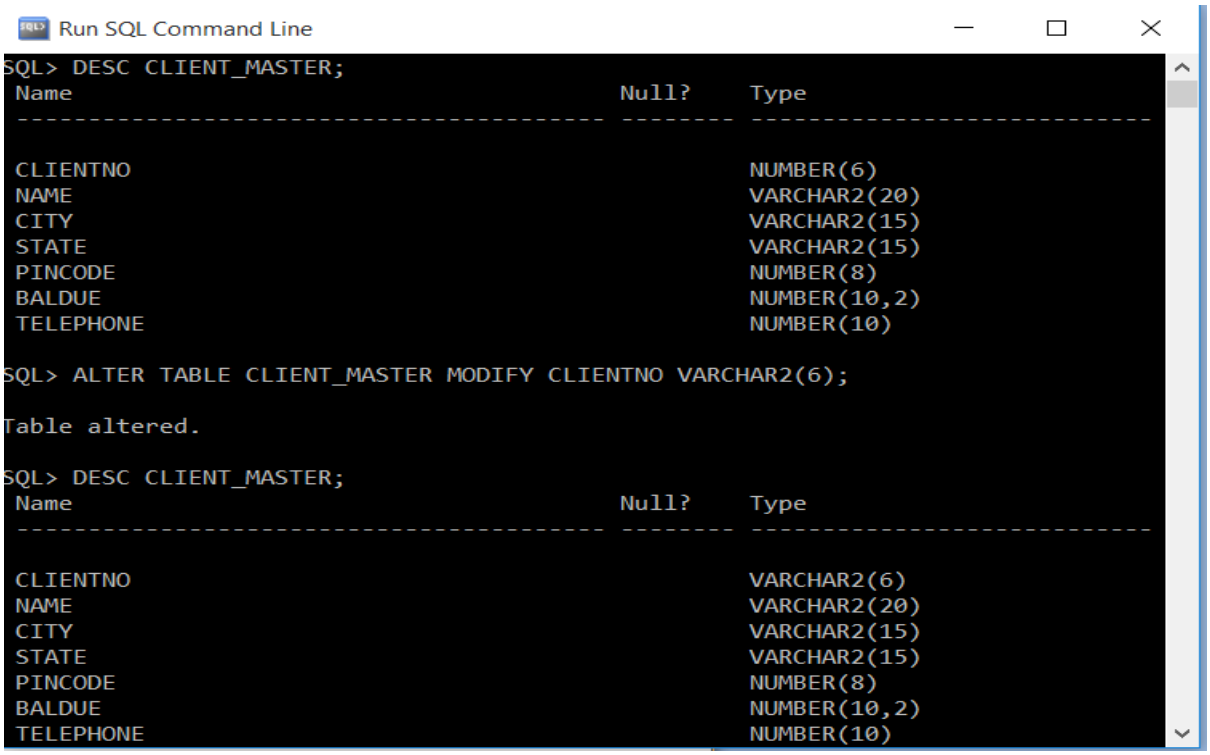
10) ADD A COLUMN 'TELEPHONE' TO THE CLIENT_MASTER TABLE.



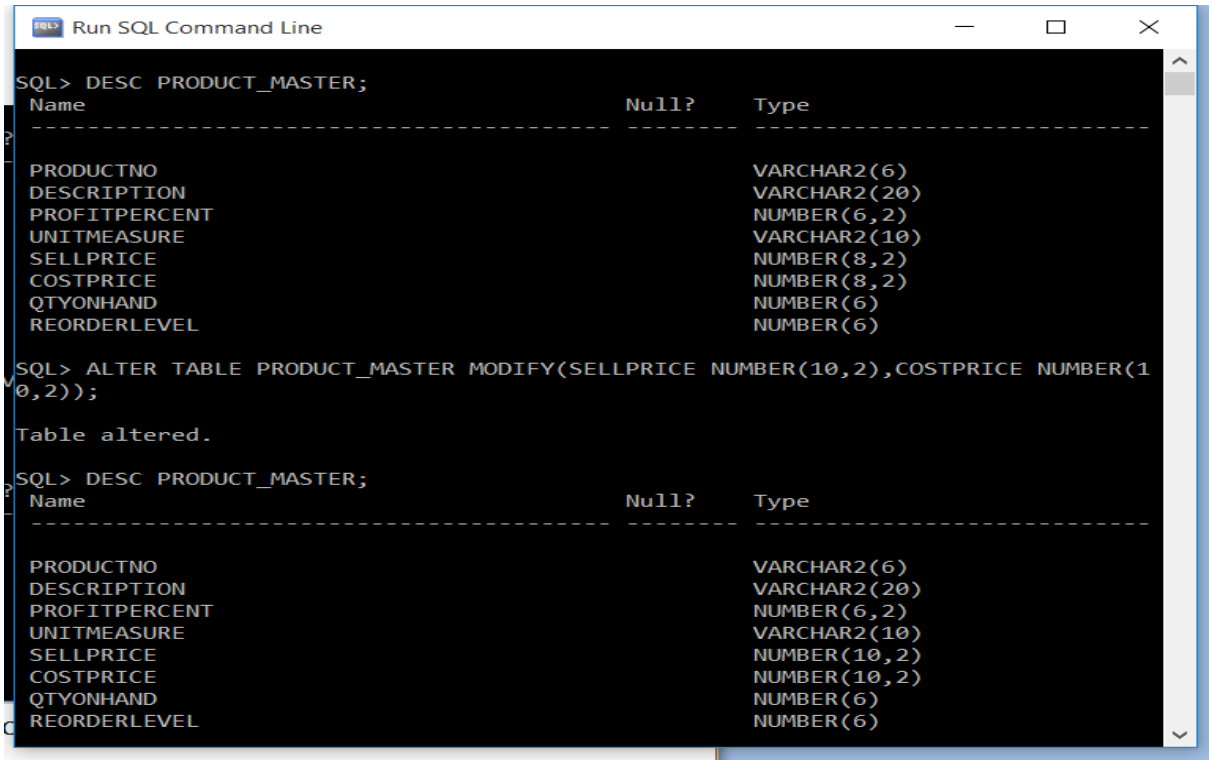
11) ADD 2 COLUMNS 'QTYONHAND AND REORDERLEVEL ' IN PRODUCT_MASTER TABLE.



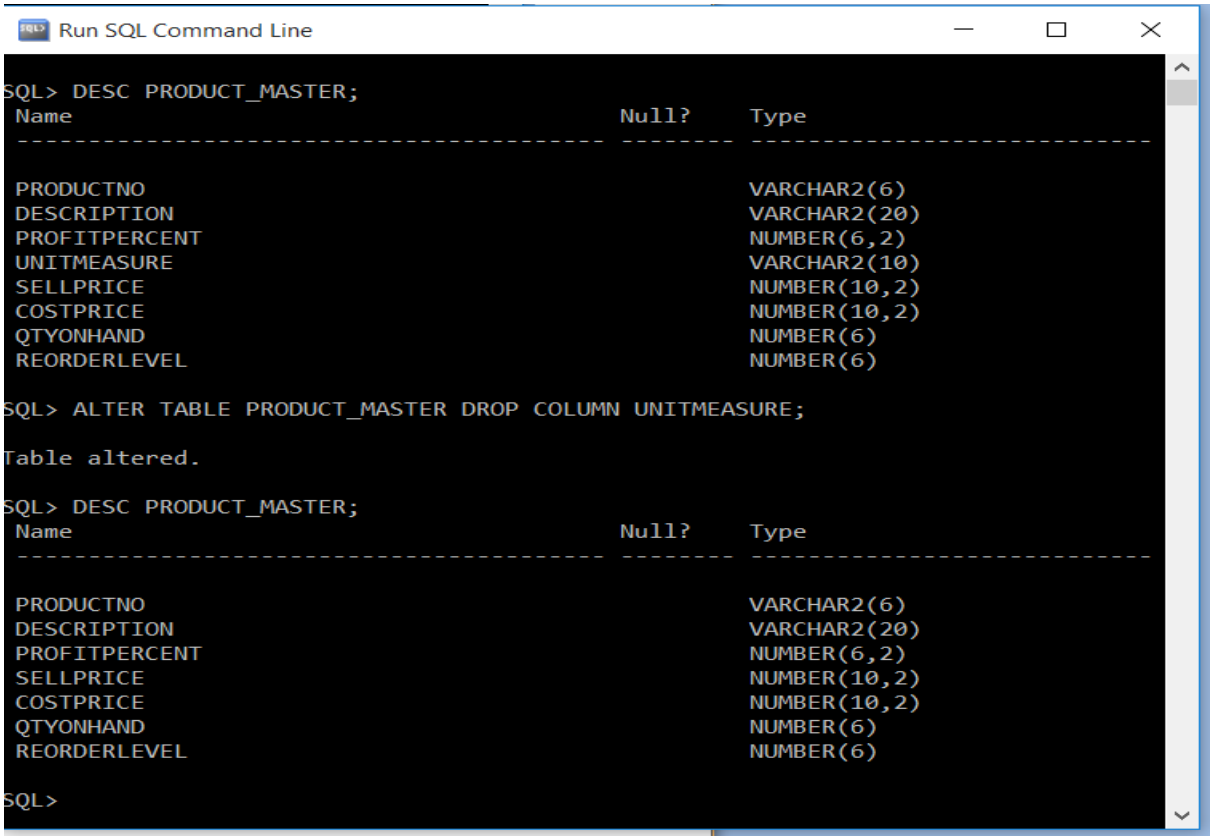
12) CHANGE THE DATATYPE OF COLUMN 'CLIENTNO' IN CLIENT MASTER TABLE TO VARCHAR2



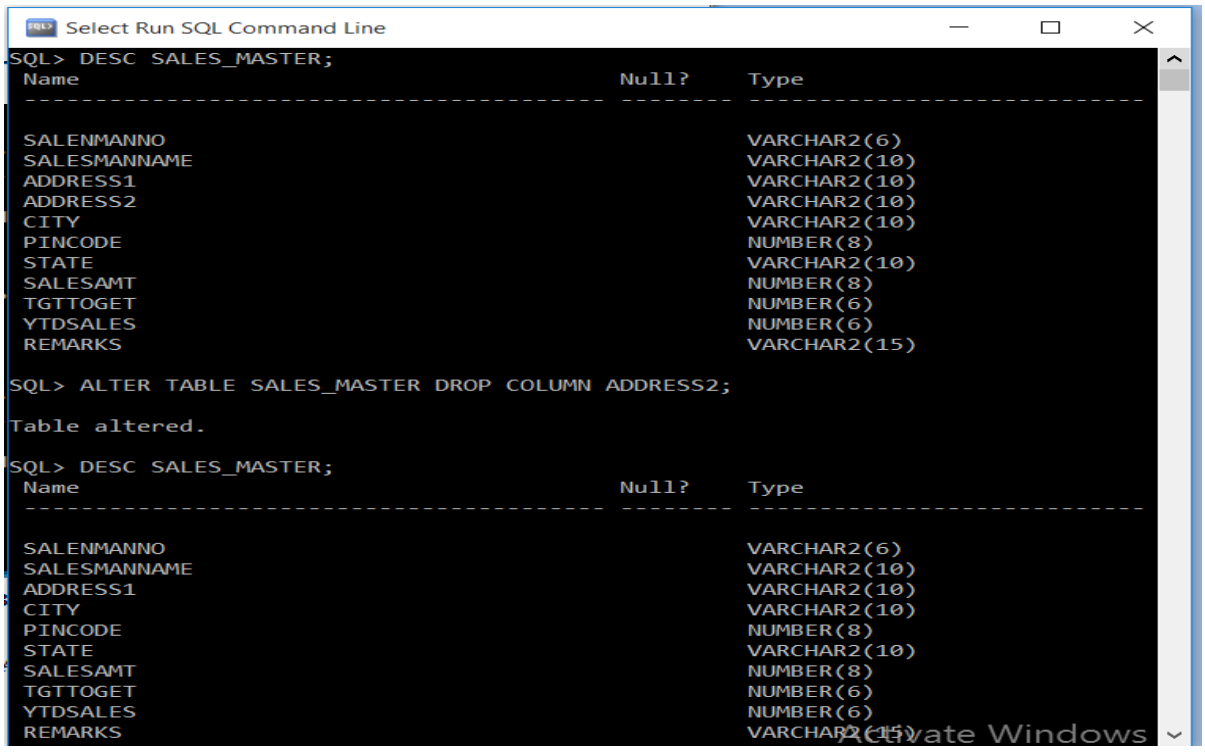
13) CHANGE THE SIZE OF TWO COLUMNS 'SELLPRICE' & 'COSTPRICE' AS 10,2 IN PRODUCT –MASTER TABLE



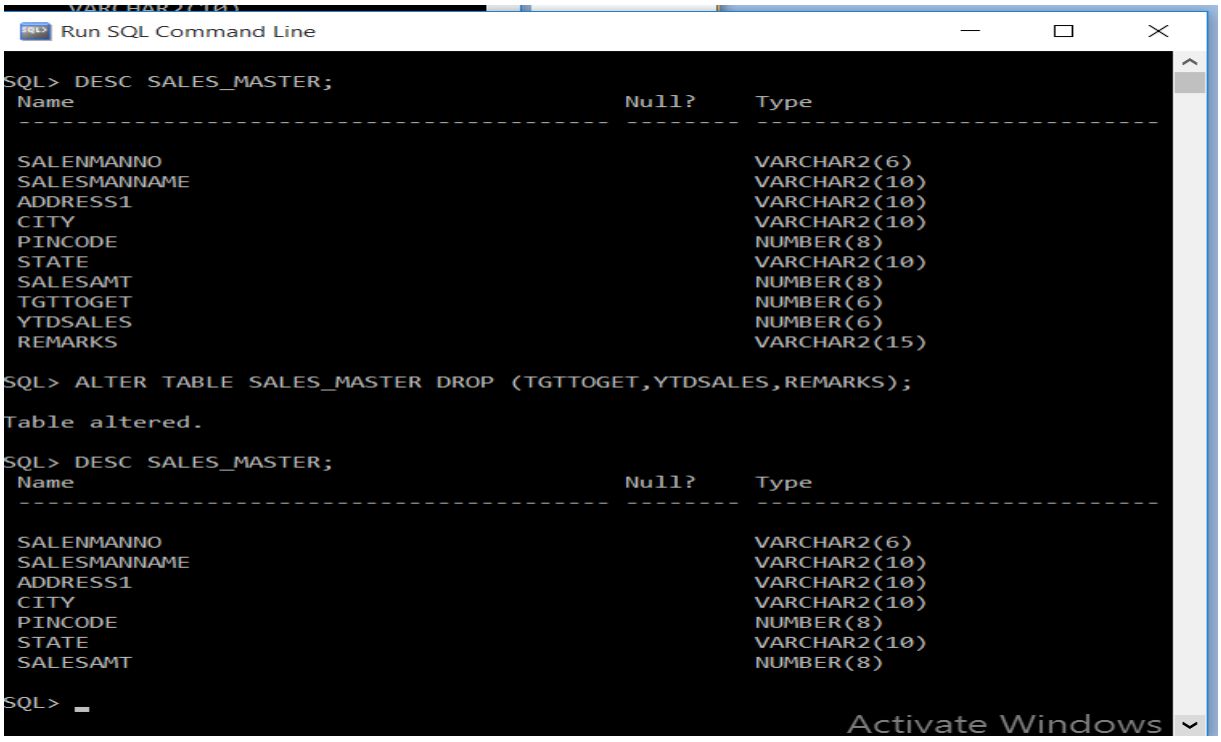
14) REMOVE THE 'UNITMEASUR' COLUMN FROM PRODUCT_MASTER



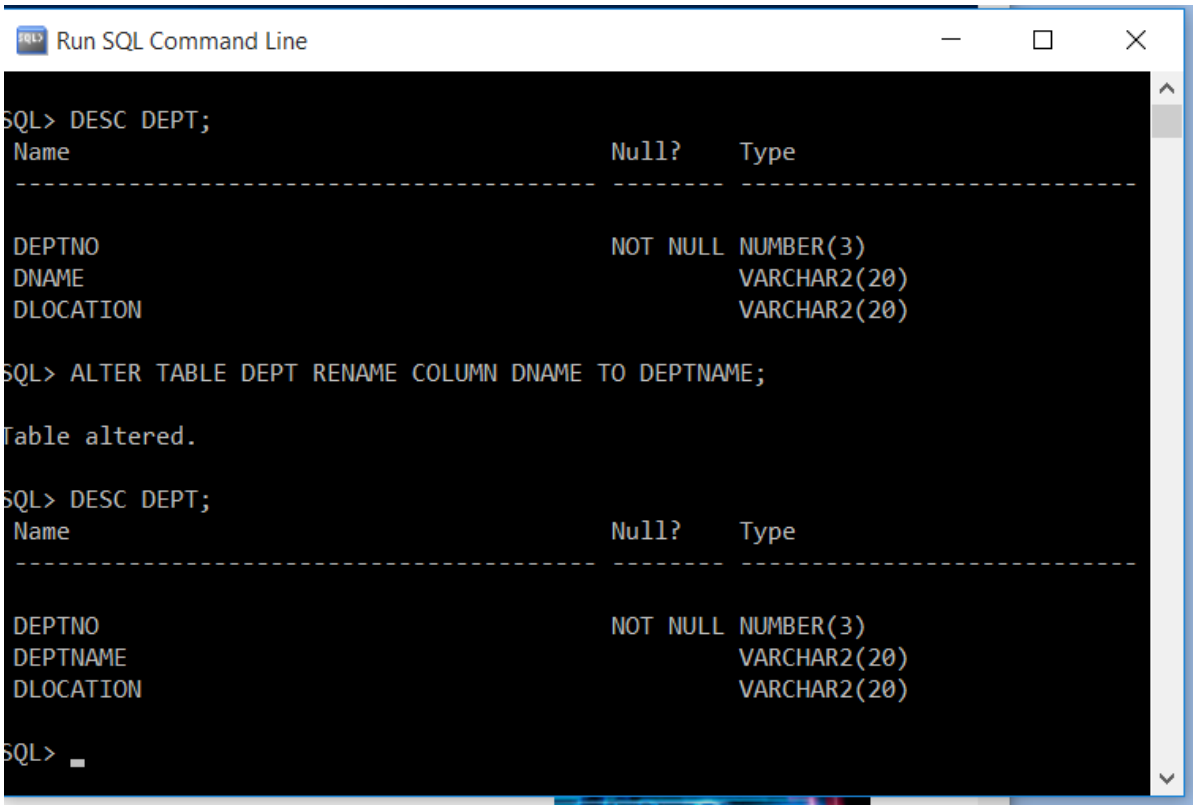
15) REMOVE 'ADDRESS2' COLUMN IN 'SALES_MASTER'TABLE



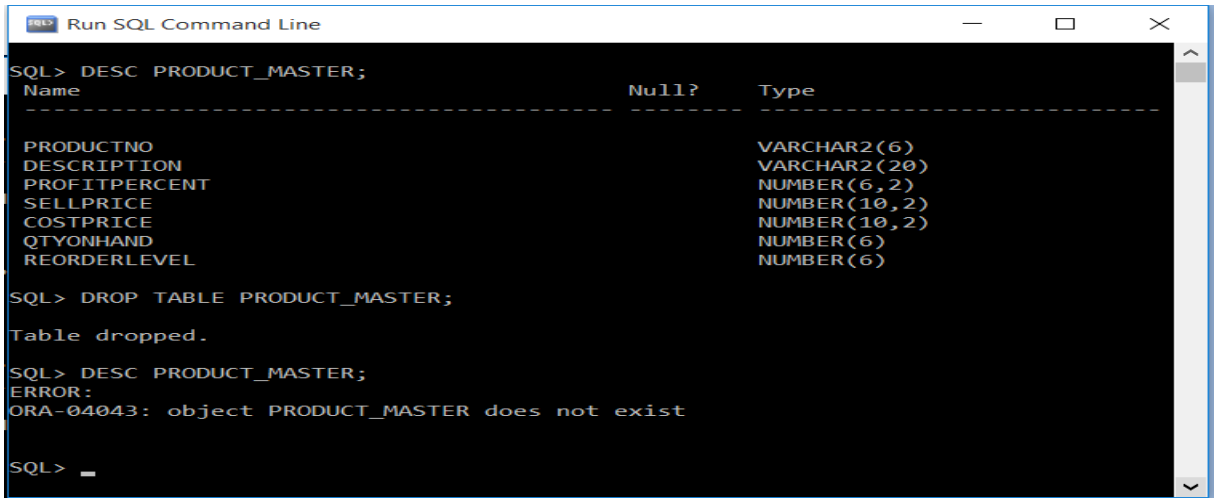
16) REMOVE 'TGTTOGET','YTDSALES','REMARKS' FROM 'SALES_MASTER' TABLE



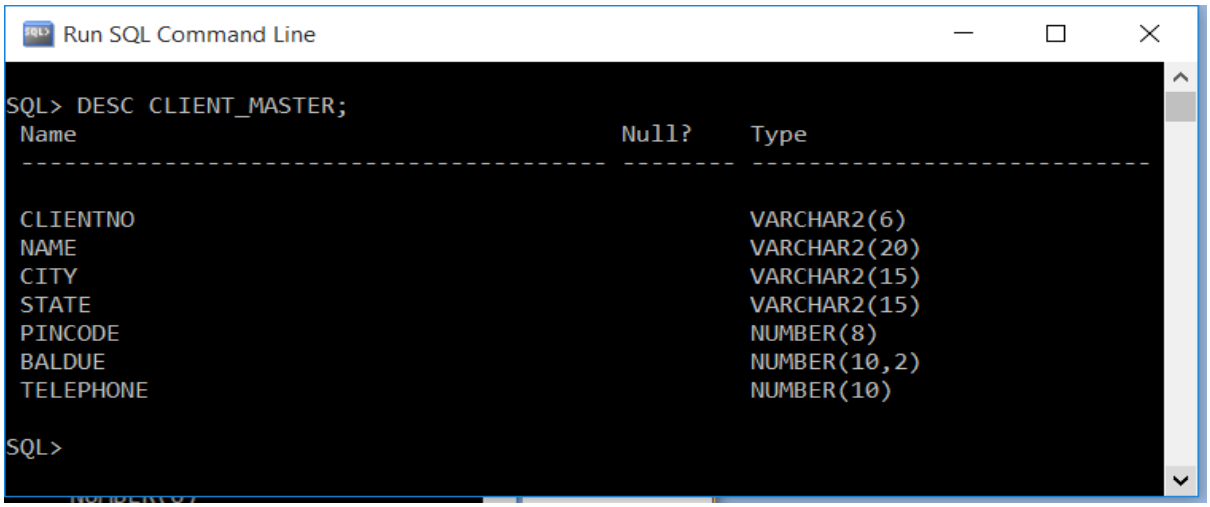
17) CHANGE THE 'DNAME' AS DEPTNAME IN 'DEPT' TABLE



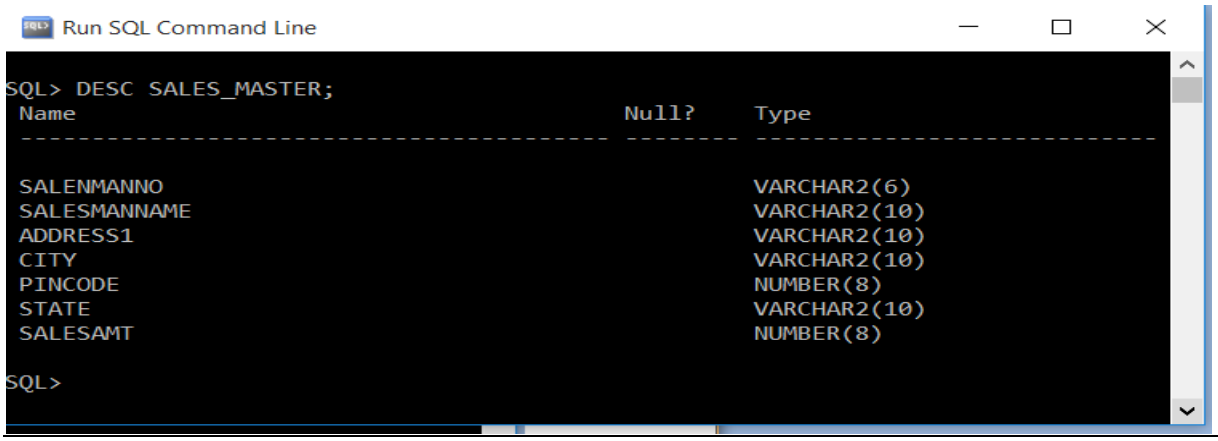
18) REMOVE THE TABLE ' PRODUCT_MASTER'



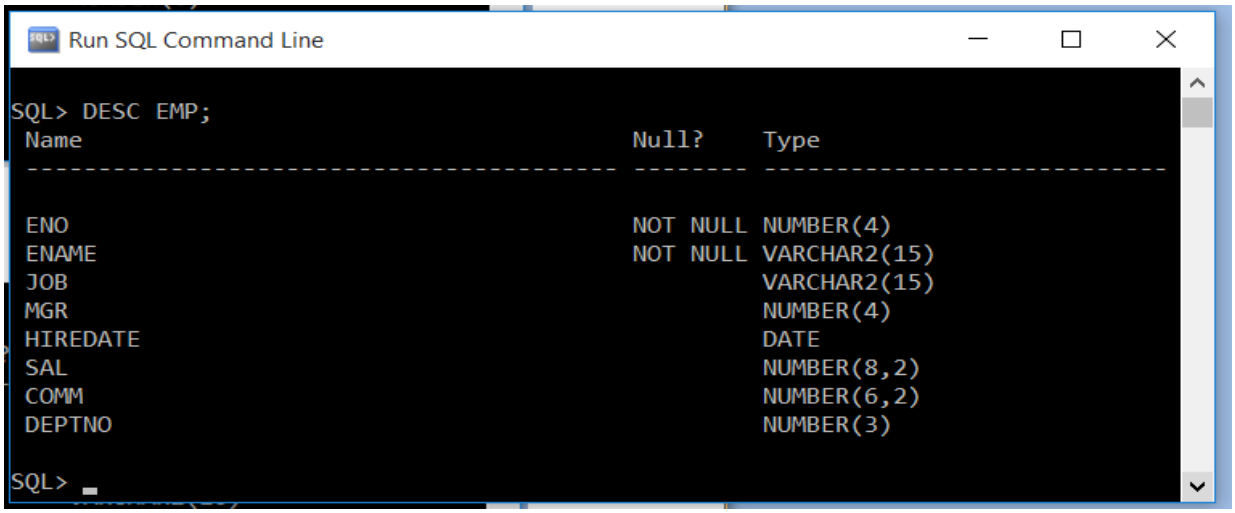
19) DISPLAY THE STRUCTURE OF 'CLIENT_MASTER'



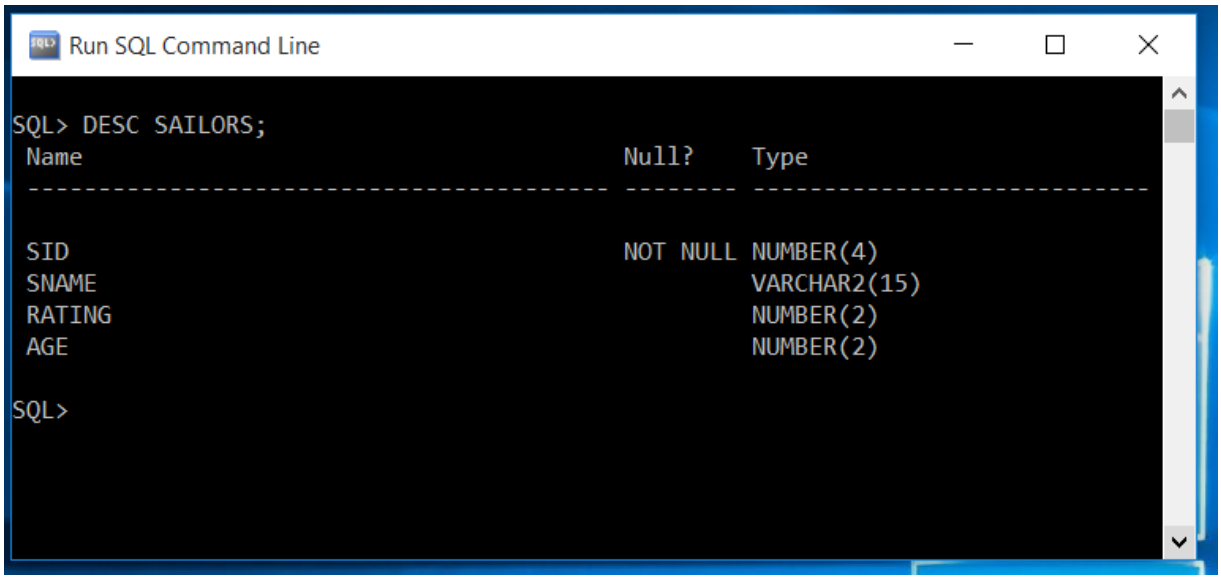
20) DISPLAY THE STRUCTURE OF 'SALES_MASTER'



21) DISPLAY THE STRUCTURE OF 'EMP'



22) DISPLAY THE STRUCTURE OF 'SAILORS'



EXERCISE NO: 2

AIM : TO ILLUSTRATE THE DML COMMANDS

1) POPULATE THE 'CLIENT_MASTER' TABLE WITH THE FOLLOWING DATA

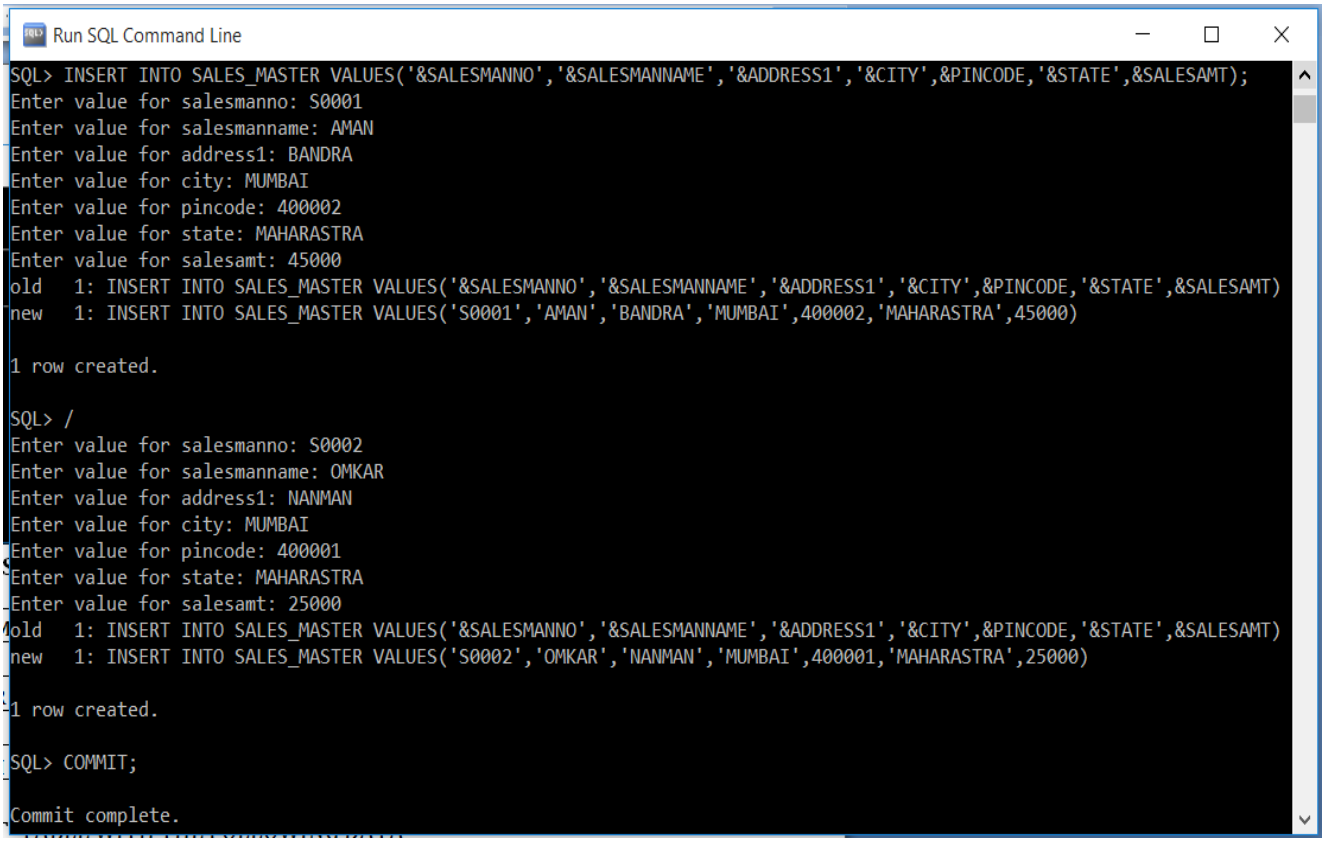
CLIENT_NO	NAME	CITY	PINCODE	STATE	BALDUE	TELEPHONE
C00001	IVAN BAYROSS	MUMBAI	400054	MAHARASTRA	15000	9867546456
C00002	MAMTAMUZUMDAR	MUMBAI	780001	MAHARASTRA	0	9876509455
C00003	CHHAYA BANKAR	MUMBAI	400057	MAHARASTRA	5000	9342567854
C00004	ASHWINIJOSHI	BANGALORE	560001	KARNATAKA	0	9087654097
C00005	HANSELCOLACO	MUMBAI	400060	MAHARASTRA	2000	9761234321
C00006	DEEPAKSHARMA	MANGALORE	560050	KARNATAKA	0	9087654009

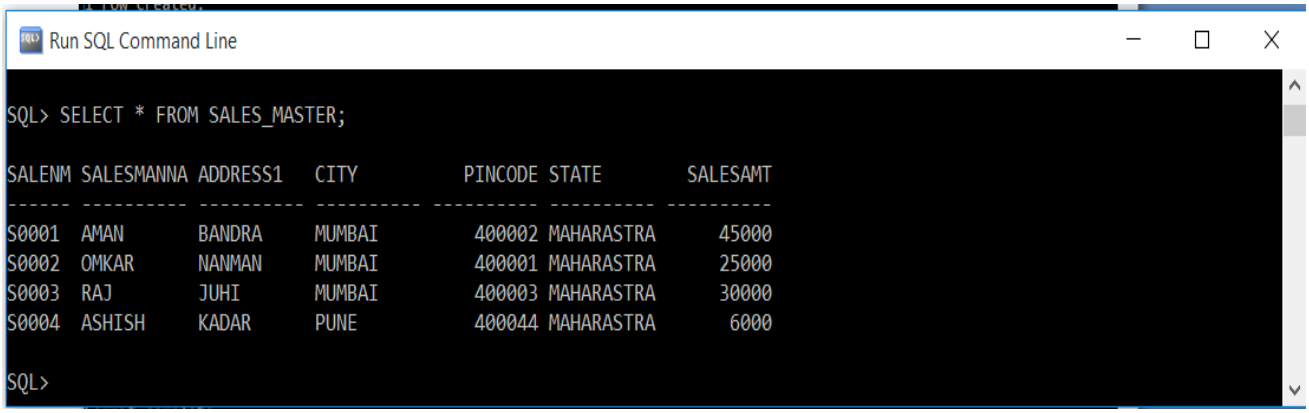
```
Run SQL Command Line

SQL> INSERT INTO CLIENT_MASTER VALUES('&CLIENTNO','&NAME','&CITY','&STATE',&PINCODE,&BALDUE,&TELEPHON
E);
Enter value for clientno: C00001
Enter value for name: IVAN BAYROSS
Enter value for city: MUMBAI
Enter value for state: MAHARASTRA
Enter value for pincode: 400054
Enter value for baldue: 1500
Enter value for telephone: 9867546456
old   1: INSERT INTO CLIENT_MASTER VALUES('&CLIENTNO','&NAME','&CITY','&STATE',&PINCODE,&BALDUE,&TELE
PHONE)
new   1: INSERT INTO CLIENT_MASTER VALUES('C00001','IVAN BAYROSS','MUMBAI','MAHARASTRA',400054,1500,9
867546456)

1 row created.

SQL> /
Enter value for clientno: C00002
Enter value for name: MAMTAMUZUMDAR
Enter value for city: MUMBAI
Enter value for state: MAHARASTRA
Enter value for pincode: 780001
Enter value for baldue: 0
Enter value for telephone: 9876509455
old   1: INSERT INTO CLIENT_MASTER VALUES('&CLIENTNO','&NAME','&CITY','&STATE',&PINCODE,&BALDUE,&TELE
PHONE)
new   1: INSERT INTO CLIENT_MASTER VALUES('C00002','MAMTAMUZUMDAR','MUMBAI','MAHARASTRA',780001,0,987
6509455)

1 row created.

SQL>
```

```
Run SQL Command Line

SQL> SET LINESIZE 100;
SQL> SELECT * FROM CLIENT_MASTER;

CLIENT NAME                CITY           STATE              PINCODE     BALDUE  TELEPHONE
------ ------------------- -------------- -------------- ---------- ---------- ----------
C00001 IVAN BAYROSS        MUMBAI         MAHARASTRA         400054       1500 9867546456
C00002 MAMTAMUZUMDAR       MUMBAI         MAHARASTRA         780001          0 9876509455
C00003 CHHAYA BANKAR       MUMBAI         MAHARASTRA         400057       5000 9342567854
C00004 ASHWINIJOSHI        BANGALORE      KARNATAKA          560001          0 9087654097
C00005 HANSELCOLACO        MUMBAI         MAHARASTRA         400060       2000 9761234321
C00006 DEEPAKSHARMA        MANGALORE      KARNATAKA          560050          0 9087654009

6 rows selected.

SQL>
```

2) POPULATE THE 'SALES_MASTER' TABLE WITH THE FOLLOWING DATA

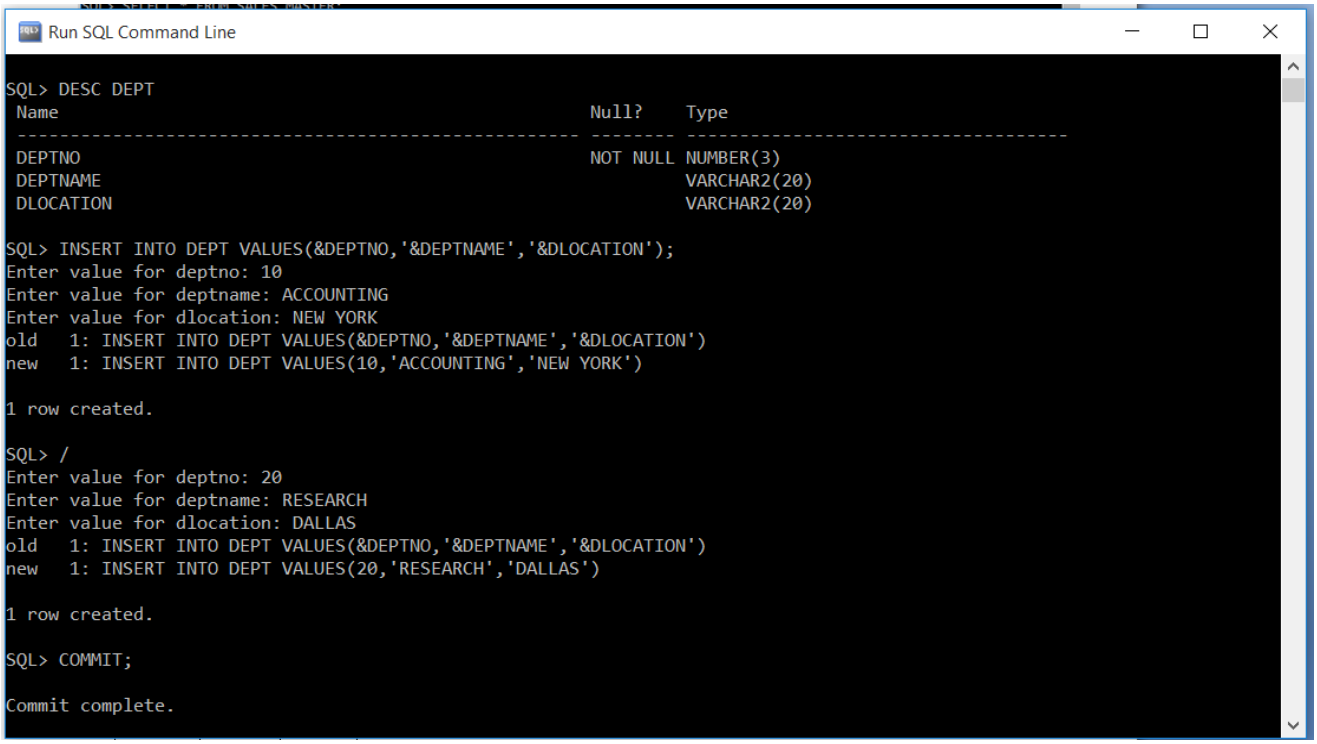
SALESMANNO	SALESMANNAME	ADDRESS1	CITY	STATE	PINCODE	SALESAMT
S0001	AMAN	BANDRA	MUMBAI	MAHARASTRA	400002	45000
S0002	OMKAR	NANMAN	MUMBAI	MAHARASTRA	400001	25000
S0003	RAJ	JUHI	MUMBAI	MAHARASTRA	400003	30000
S0004	ASHISH	KADAR	PUNE	MAHARASTRA	400044	60000

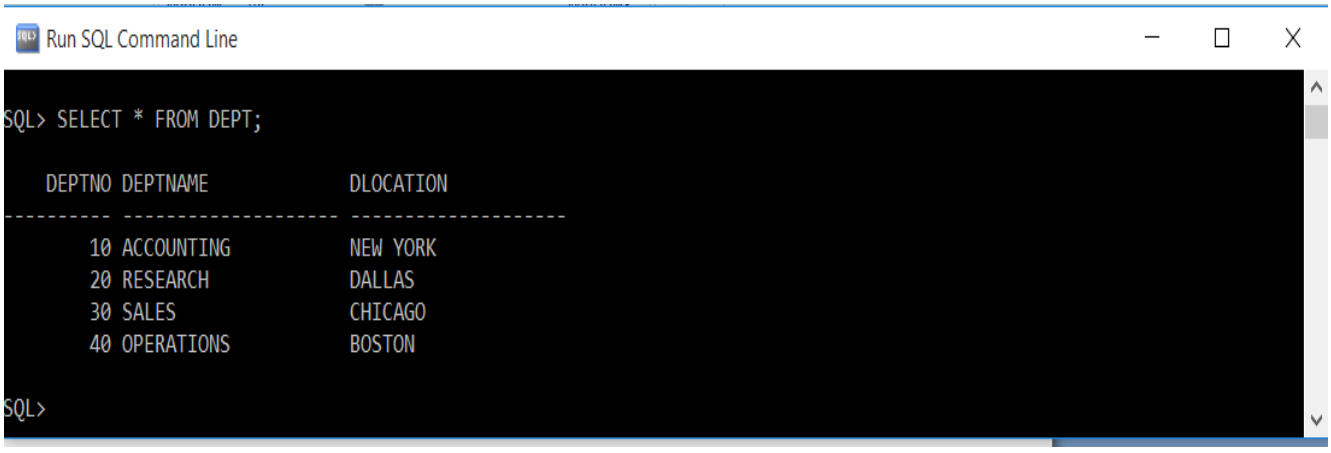




3) POPULATE THE 'DEPT' TABLE WITH THE FOLLOWING DATA

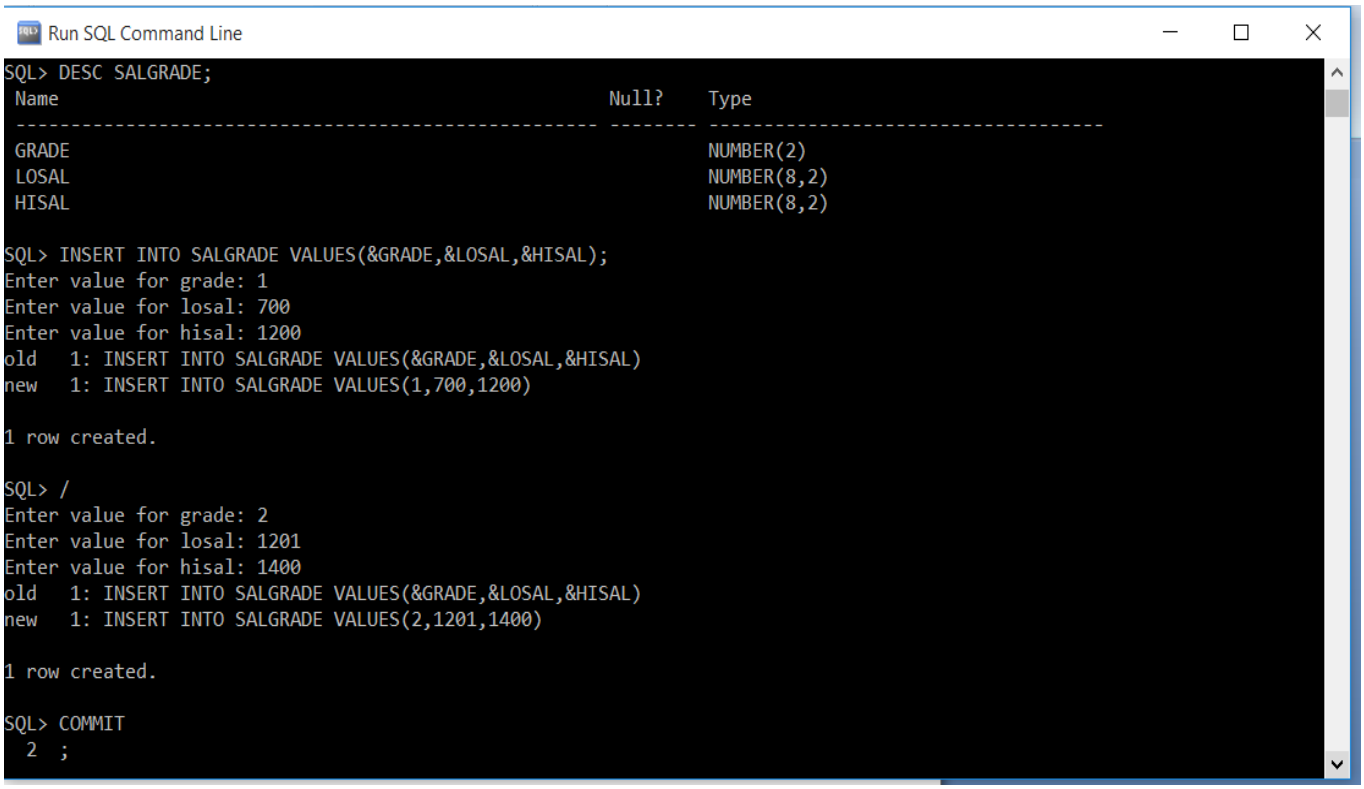
DEPTNO	DEPTNAME	DEPTLOCATION
10	ACCOUNTING	NEW YORK
20	RESEARCH	DALLAS
30	SALES	CHICAGO
40	OPERATIONS	BOSTON

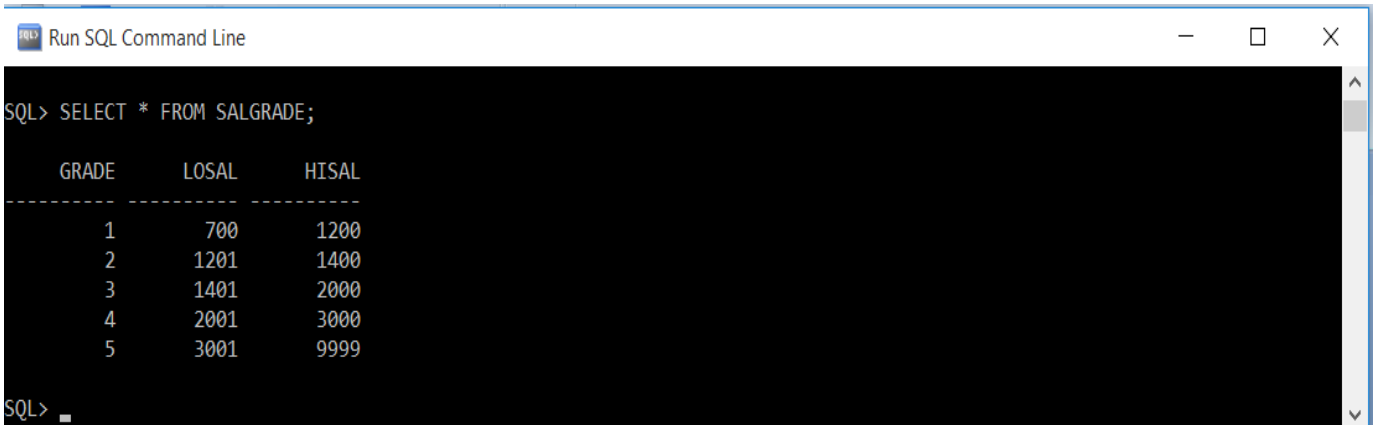




4) POPULATE THE 'SALGRADE' TABLE WITH THE FOLLOWING DATA

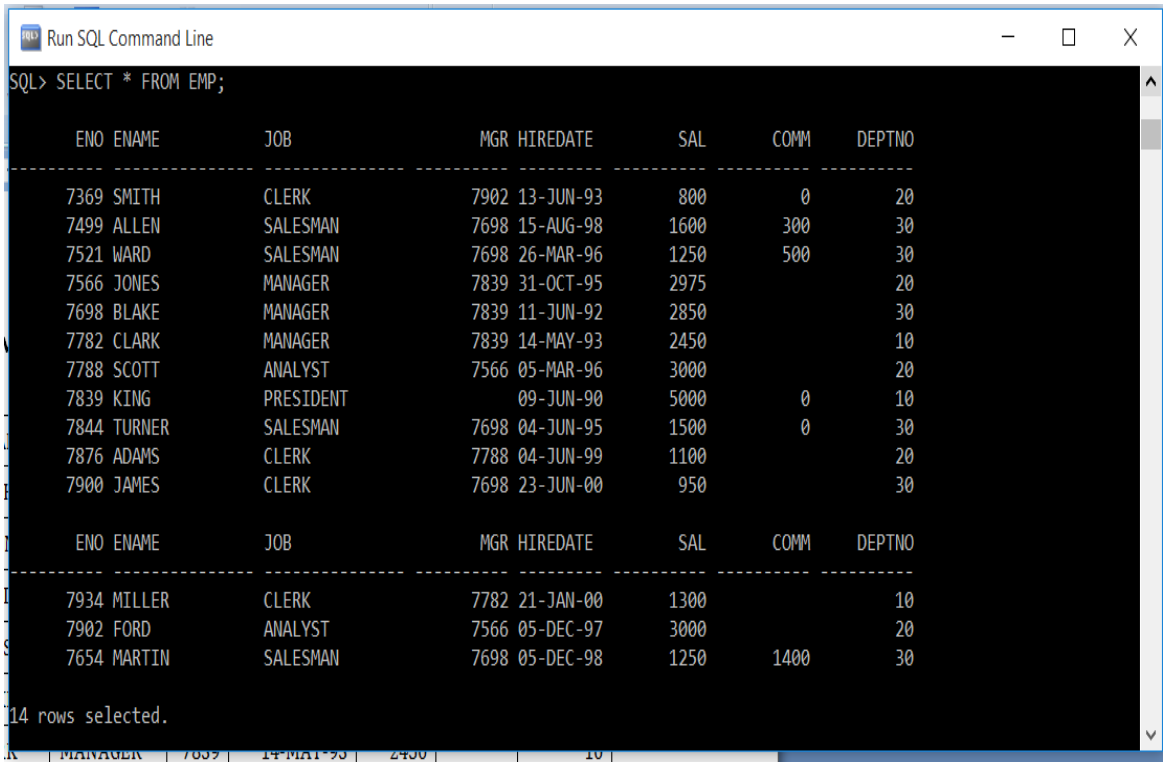
GRADE	LOSAL	HISAL
1	700	1200
2	1201	1400
4	2001	3000
5	3001	9999
3	1401	2000





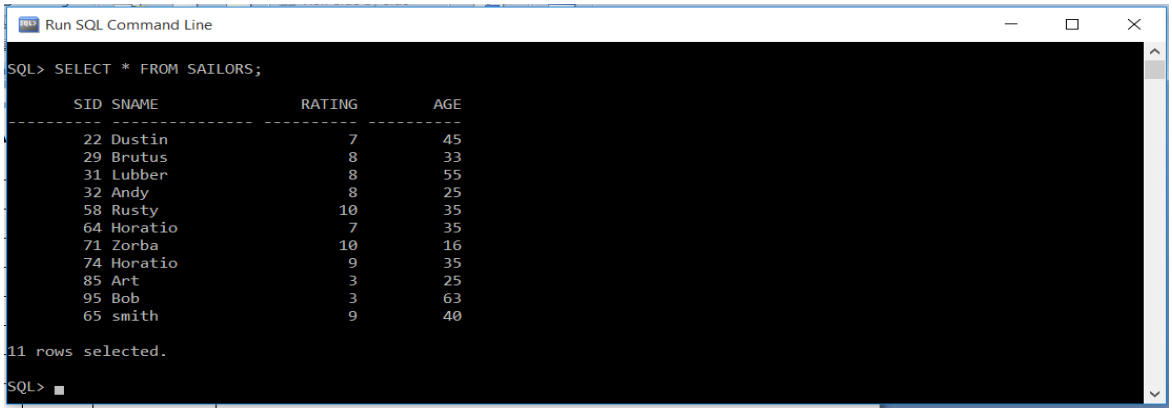
5) POPULATE THE 'EMP' TABLE WITH THE FOLLOWING DATA

ENO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	13-JUN-93	800	0	20
7499	ALLEN	SALESMAN	7698	15-AUG-98	1600	300	30
7521	WARD	SALESMAN	7698	26-MAR-96	1250	500	30
7566	JONES	MANAGER	7839	31-OCT-95	2975		20
7698	BLAKE	MANAGER	7839	11-JUN-92	2850		30
7782	CLARK	MANAGER	7839	14-MAY-93	2450		10
7788	SCOTT	ANALYST	7566	5-MAR-96	3000		20
7839	KING	PRESIDENT		9-JUN-90	5000	0	10
7844	TURNER	SALESMAN	7698	4-JUN-95	1500	0	30
7876	ADAMS	CLERK	7788	4-JUN-99	1100		20
7900	JAMES	CLERK	7698	23-JUN-00	950		30
7934	MILLER	CLERK	7782	21-JAN-00	1300		10
7902	FORD	ANALYST	7566	5-DEC-97	3000		20
7654	MARTIN	SALESMAN	7698	5-DEC-98	1250	1400	30



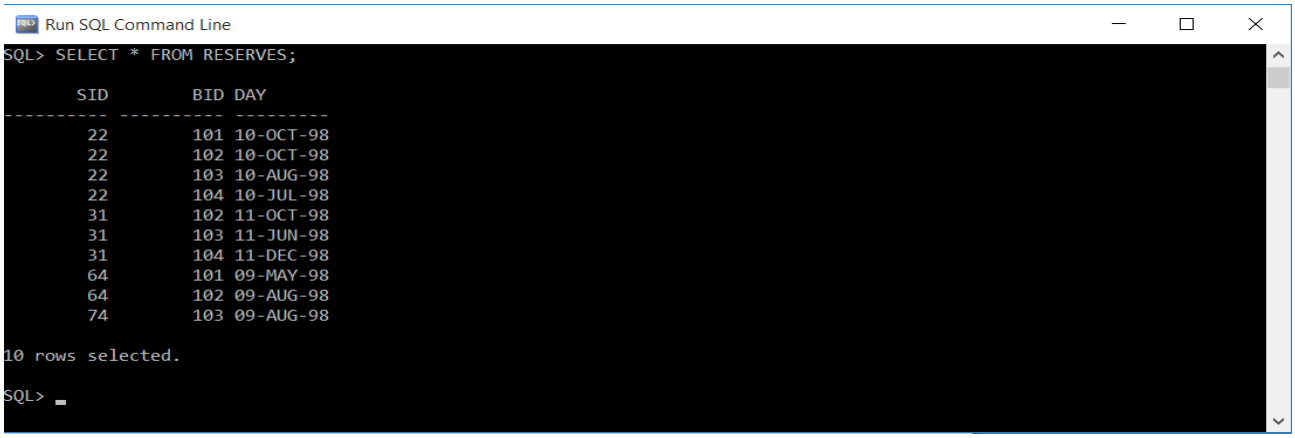
6) POPULATE THE 'SAILORS' TABLE WITH THE FOLLOWING DATA

SID	SNAME	RATING	AGE
22	DUSTIN	7	45
29	BRUTUS	1	33
31	LUBBER	8	55.5
32	ANDY	8	25.5
58	RUSTY	10	35
64	HORATIO	7	35
71	ZORBA	10	16
74	HORATIO	9	40
85	ART	3	25.5
95	BOB	3	63.5



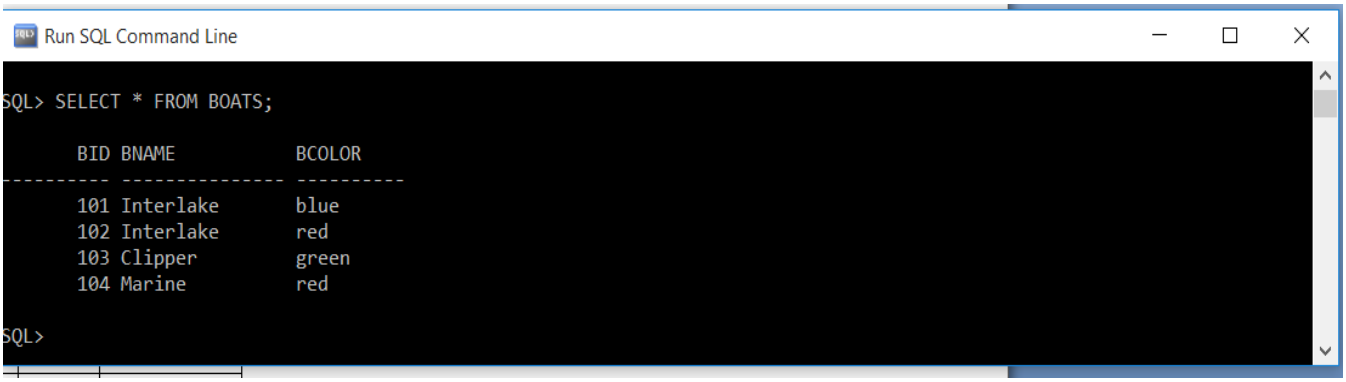
7) POPULATE THE 'RESERVES' TABLE WITH THE FOLLOWING DATA

SID	BID	DAY
22	101	10-Oct-98
22	102	10-Oct-98
22	103	10-Aug-98
22	104	10-Jul-98
31	102	11-Oct-98
31	103	11-Jun-98
31	104	11-Dec-98
64	101	9-May-98
64	102	9-Aug-98
74	103	9-Aug-98

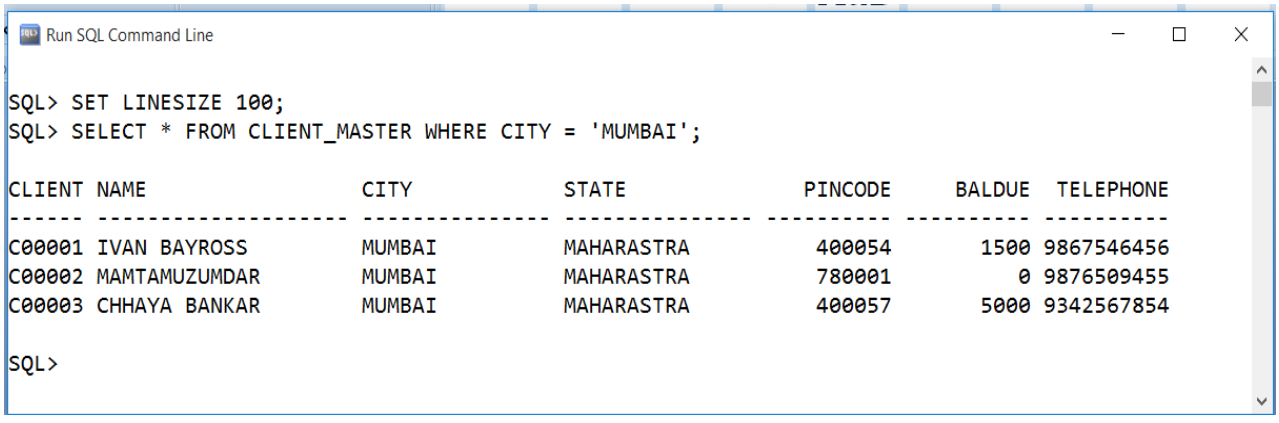


8) POPULATE THE 'BOATS' TABLE WITH THE FOLLOWING DATA

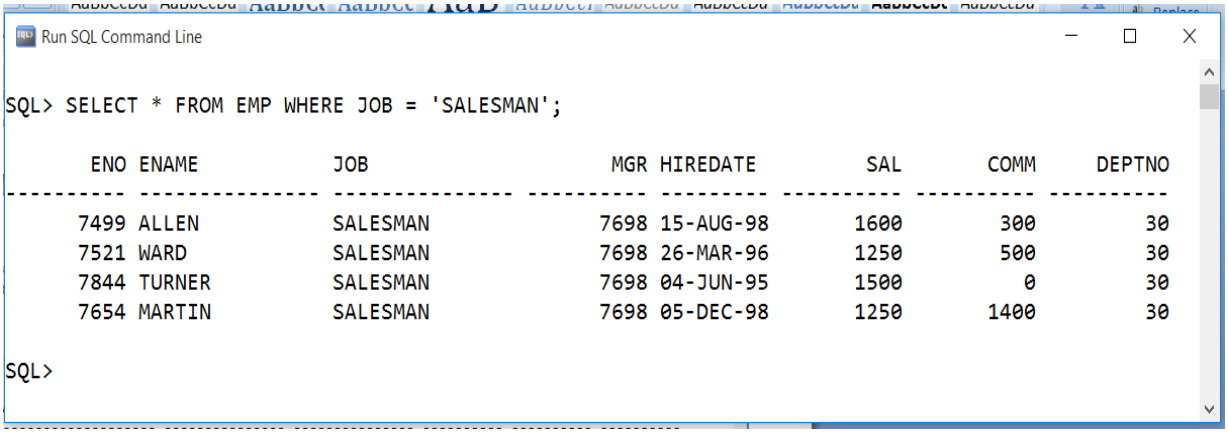
BID	BNAME	BCOLOR
101	Interlake	Blue
102	Interlake	Red
103	Clipper	Green
104	Marine	Red



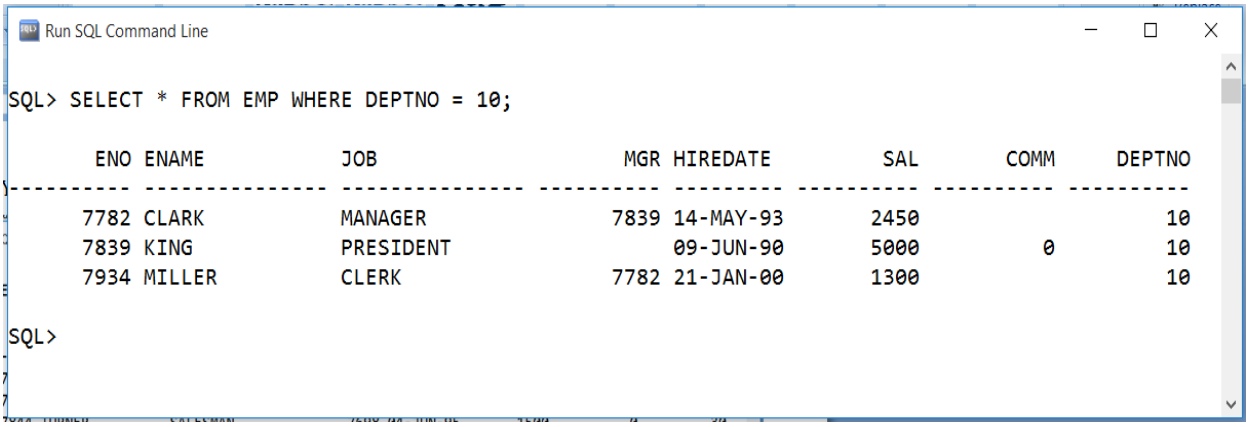
9) DISPLAY ALL CLIENTS WHO STAY IN 'MUMBAI'



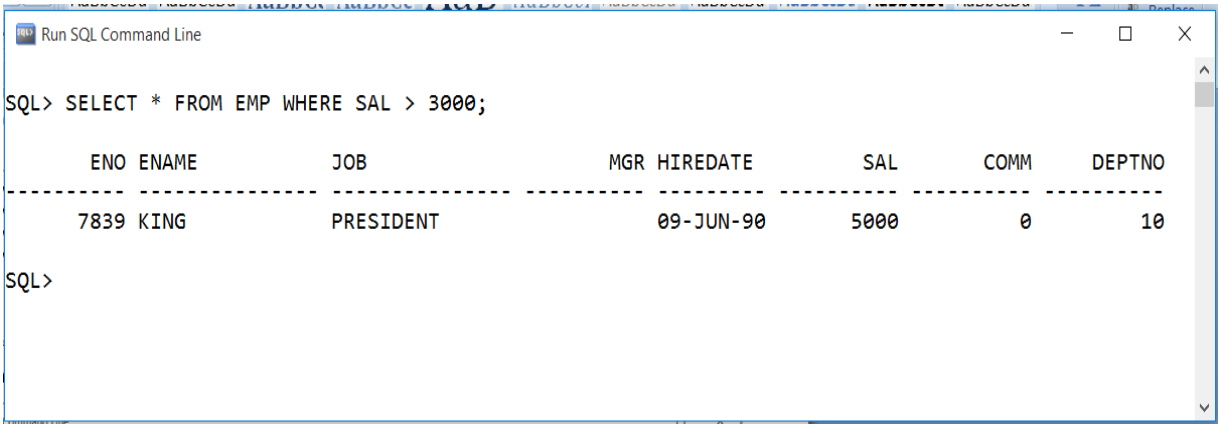
10) DISPLAY ALL EMPLOYEES WHOSE DESIGNATION IS 'SALESMAN'



11) DISPLAY EMPLOYEES WORKING IN 10TH DEPARTMENT



12) DISPLAY EMPLOYEES WHO GETS SALARY GREATER THAN 3000



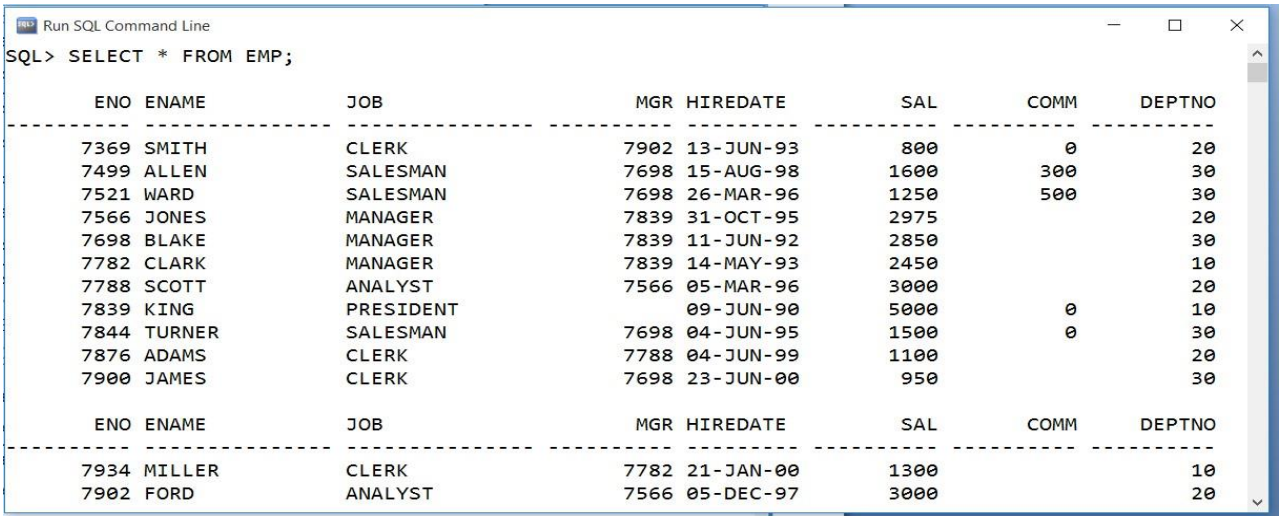
13) CHANGE THE CITY AND STATE OF CLIENT WHOSE NUMBER IS C00005 TO BANGALORE AND KARNATAKA

```
Run SQL Command Line
SQL> SELECT * FROM CLIENT_MASTER WHERE CLIENTNO = 'C00005';

CLIENT NAME                CITY           STATE              PINCODE     BALDUE  TELEPHONE
------ ------------------- -------------- -------------- ---------- ---------- ----------
C00005 HANSELCOLACO        MUMBAI         MAHARASTRA          400060       2000 9761234321

SQL> UPDATE CLIENT_MASTER SET CITY ='BANGALORE',STATE ='KARNATAKA' WHERE CLIENTNO='C00005';

1 row updated.

SQL> SELECT * FROM CLIENT_MASTER WHERE CLIENTNO = 'C00005';

CLIENT NAME                CITY           STATE              PINCODE     BALDUE  TELEPHONE
------ ------------------- -------------- -------------- ---------- ---------- ----------
C00005 HANSELCOLACO        BANGALORE      KARNATAKA           400060       2000 9761234321
```

14) CHANGE THE BALDUE OF CLIENT_NO 'C00006' TO 1000

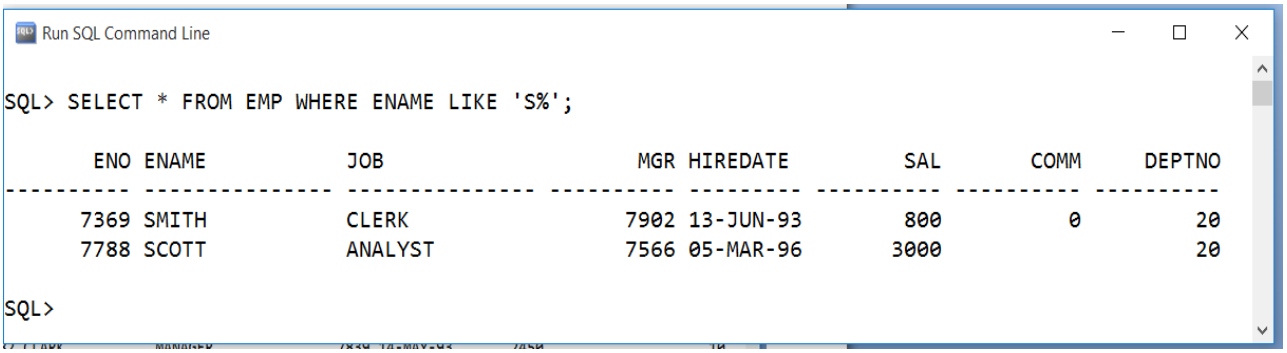
```
Run SQL Command Line

SQL> SELECT * FROM CLIENT_MASTER WHERE CLIENTNO = 'C00006';

CLIENT NAME                CITY           STATE              PINCODE     BALDUE  TELEPHONE
------ ------------------- -------------- -------------- ---------- ---------- ----------
C00006 DEEPAKSHARMA        MANGALORE      KARNATAKA           560050          0 9087654009

SQL> UPDATE CLIENT_MASTER SET BALDUE = 1000 WHERE CLIENTNO='C00006';

1 row updated.

SQL> SELECT * FROM CLIENT_MASTER WHERE CLIENTNO = 'C00006';

CLIENT NAME                CITY           STATE              PINCODE     BALDUE  TELEPHONE
------ ------------------- -------------- -------------- ---------- ---------- ----------
C00006 DEEPAKSHARMA        MANGALORE      KARNATAKA           560050       1000 9087654009
```

15) LIST ALL THE EMPLOYEES



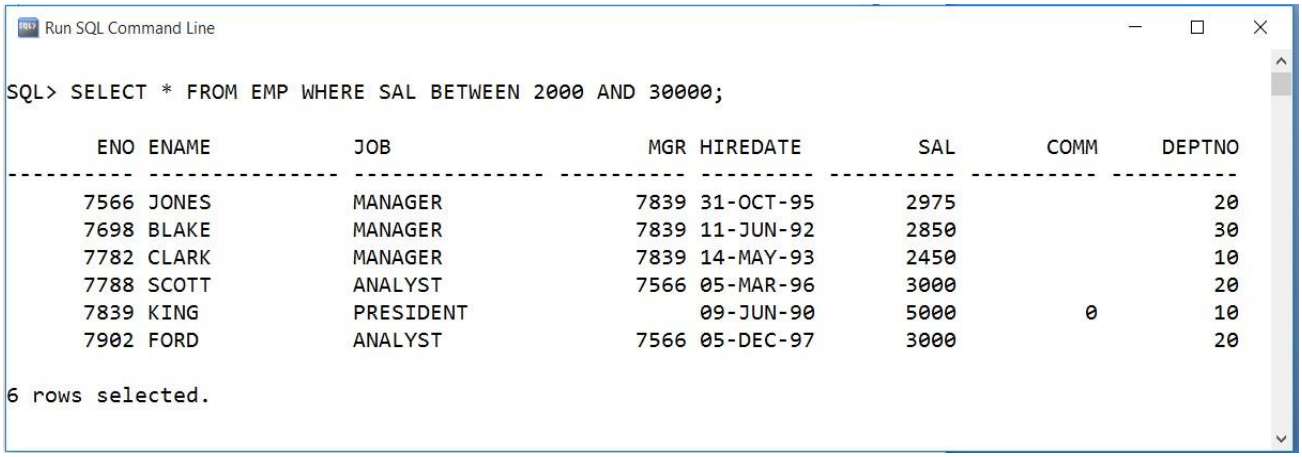
```
Run SQL Command Line
SQL> SELECT * FROM EMP;

      ENO ENAME           JOB                 MGR HIREDATE          SAL       COMM     DEPTNO
---------- --------------- --------------- ---------- --------- ---------- ---------- ----------
      7369 SMITH           CLERK             7902 13-JUN-93         800          0         20
      7499 ALLEN           SALESMAN          7698 15-AUG-98        1600        300         30
      7521 WARD            SALESMAN          7698 26-MAR-96        1250        500         30
      7566 JONES           MANAGER           7839 31-OCT-95        2975                    20
      7698 BLAKE           MANAGER           7839 11-JUN-92        2850                    30
      7782 CLARK           MANAGER           7839 14-MAY-93        2450                    10
      7788 SCOTT           ANALYST           7566 05-MAR-96        3000                    20
      7839 KING            PRESIDENT              09-JUN-90        5000          0         10
      7844 TURNER          SALESMAN          7698 04-JUN-95        1500          0         30
      7876 ADAMS           CLERK             7788 04-JUN-99        1100                    20
      7900 JAMES           CLERK             7698 23-JUN-00         950                    30

      ENO ENAME           JOB                 MGR HIREDATE          SAL       COMM     DEPTNO
---------- --------------- --------------- ---------- --------- ---------- ---------- ----------
      7934 MILLER          CLERK             7782 21-JAN-00        1300                    10
      7902 FORD            ANALYST           7566 05-DEC-97        3000                    20
```

16) LIST ALL EMPLOYEES WHOSE NAME STARTS WITH 'S'



```
Run SQL Command Line

SQL> SELECT * FROM EMP WHERE ENAME LIKE 'S%';

      ENO ENAME           JOB                 MGR HIREDATE          SAL       COMM     DEPTNO
---------- --------------- --------------- ---------- --------- ---------- ---------- ----------
      7369 SMITH           CLERK             7902 13-JUN-93         800          0         20
      7788 SCOTT           ANALYST           7566 05-MAR-96        3000                    20

SQL>
```

17) DISPLAY EMPLOYEES WHOSE SALARY RANGES BETWEEN 2000 TO 3000



```
Run SQL Command Line

SQL> SELECT * FROM EMP WHERE SAL BETWEEN 2000 AND 30000;

      ENO ENAME           JOB                 MGR HIREDATE          SAL       COMM     DEPTNO
---------- --------------- --------------- ---------- --------- ---------- ---------- ----------
      7566 JONES           MANAGER           7839 31-OCT-95        2975                    20
      7698 BLAKE           MANAGER           7839 11-JUN-92        2850                    30
      7782 CLARK           MANAGER           7839 14-MAY-93        2450                    10
      7788 SCOTT           ANALYST           7566 05-MAR-96        3000                    20
      7839 KING            PRESIDENT              09-JUN-90        5000          0         10
      7902 FORD            ANALYST           7566 05-DEC-97        3000                    20

6 rows selected.
```

18) DISPLAY EMPLOYEE'S WHOSE JOB IS PRESIDENT, SALESMAN AND CLERK

Run SQL Command Line

```
SQL> SELECT * FROM EMP WHERE JOB IN ('PRESIDENT','CLERK','SALESMAN');

       ENO ENAME           JOB                 MGR HIREDATE          SAL       COMM     DEPTNO
---------- --------------- --------------- ---------- --------- ---------- ---------- ----------
      7369 SMITH           CLERK                7902 13-JUN-93        800          0         20
      7499 ALLEN           SALESMAN             7698 15-AUG-98       1600        300         30
      7521 WARD            SALESMAN             7698 26-MAR-96       1250        500         30
      7839 KING            PRESIDENT                 09-JUN-90       5000          0         10
      7844 TURNER          SALESMAN             7698 04-JUN-95       1500          0         30
      7876 ADAMS           CLERK                7788 04-JUN-99       1100                    20
      7900 JAMES           CLERK                7698 23-JUN-00        950                    30
      7934 MILLER          CLERK                7782 21-JAN-00       1300                    10
      7654 MARTIN          SALESMAN             7698 05-DEC-98       1250       1400         30

9 rows selected.

SQL>
```

DISPLAY EMPLOYEE'S WHOSE JOB IS PRESIDENT, SALESMAN AND CLERK

19) DISPLAY EMPLOYEE'S WHOSE NAME DOESNOT START WITH 'A'

Run SQL Command Line

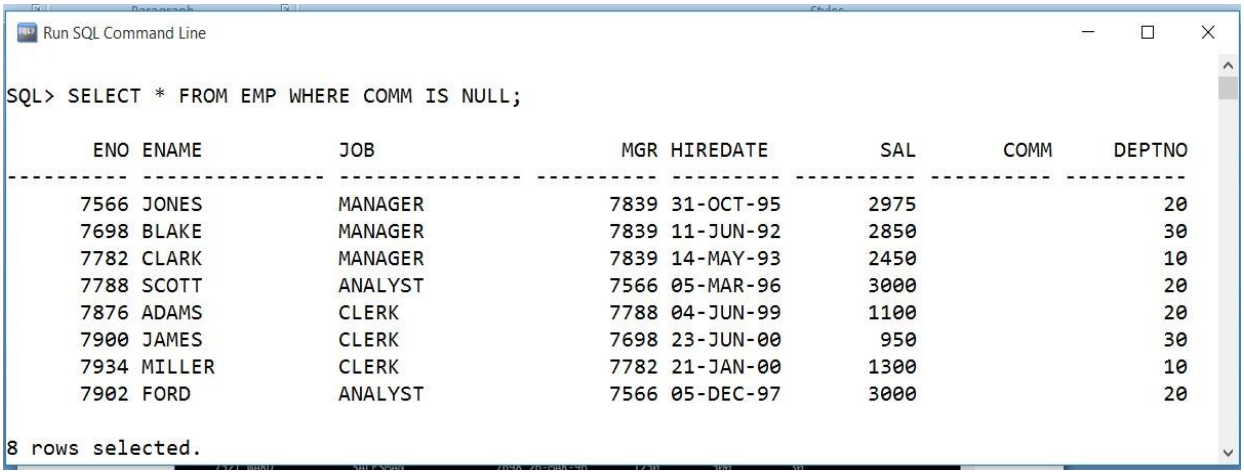
```
SQL> SELECT * FROM EMP WHERE ENAME NOT LIKE 'A%';

       ENO ENAME           JOB                 MGR HIREDATE          SAL       COMM     DEPTNO
---------- --------------- --------------- ---------- --------- ---------- ---------- ----------
      7369 SMITH           CLERK                7902 13-JUN-93        800          0         20
      7521 WARD            SALESMAN             7698 26-MAR-96       1250        500         30
      7566 JONES           MANAGER              7839 31-OCT-95       2975                    20
      7698 BLAKE           MANAGER              7839 11-JUN-92       2850                    30
      7782 CLARK           MANAGER              7839 14-MAY-93       2450                    10
      7788 SCOTT           ANALYST              7566 05-MAR-96       3000                    20
      7839 KING            PRESIDENT                 09-JUN-90       5000          0         10
      7844 TURNER          SALESMAN             7698 04-JUN-95       1500          0         30
      7900 JAMES           CLERK                7698 23-JUN-00        950                    30
      7934 MILLER          CLERK                7782 21-JAN-00       1300                    10
      7902 FORD            ANALYST              7566 05-DEC-97       3000                    20

       ENO ENAME           JOB                 MGR HIREDATE          SAL       COMM     DEPTNO
---------- --------------- --------------- ---------- --------- ---------- ---------- ----------
      7654 MARTIN          SALESMAN             7698 05-DEC-98       1250       1400         30

12 rows selected.

SQL>
```

20) DISPLAY EMPLOYEE'S WHOSE NAME HAS EXACTLY 4 CHARACTERS

Run SQL Command Line

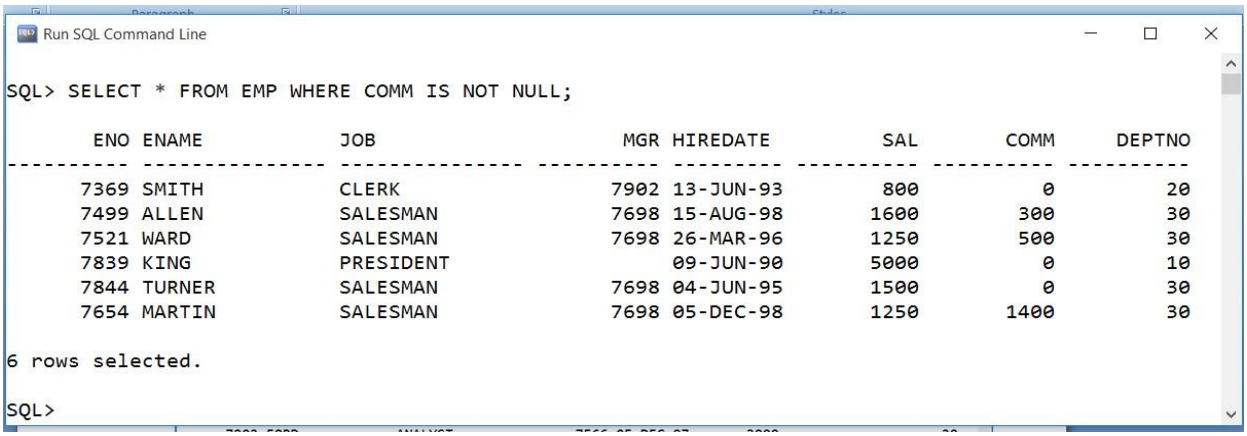
```
SQL> SELECT * FROM EMP WHERE ENAME LIKE '____';

       ENO ENAME           JOB                 MGR HIREDATE          SAL       COMM     DEPTNO
---------- --------------- --------------- ---------- --------- ---------- ---------- ----------
      7521 WARD            SALESMAN             7698 26-MAR-96       1250        500         30
      7839 KING            PRESIDENT                 09-JUN-90       5000          0         10
      7902 FORD            ANALYST              7566 05-DEC-97       3000                    20

SQL>
```

21) DISPLAY EMPLOYEE'S WHO ARE NOT GETTING COMMISION



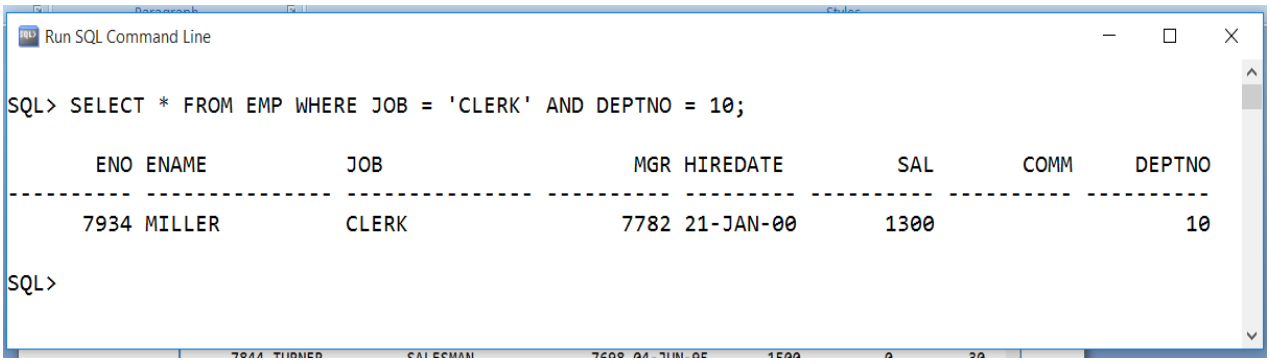
```
Run SQL Command Line

SQL> SELECT * FROM EMP WHERE COMM IS NULL;

       ENO ENAME           JOB                 MGR HIREDATE          SAL       COMM     DEPTNO
---------- --------------- --------------- ---------- --------- ---------- ---------- ----------
      7566 JONES           MANAGER               7839 31-OCT-95       2975                    20
      7698 BLAKE           MANAGER               7839 11-JUN-92       2850                    30
      7782 CLARK           MANAGER               7839 14-MAY-93       2450                    10
      7788 SCOTT           ANALYST               7566 05-MAR-96       3000                    20
      7876 ADAMS           CLERK                 7788 04-JUN-99       1100                    20
      7900 JAMES           CLERK                 7698 23-JUN-00        950                    30
      7934 MILLER          CLERK                 7782 21-JAN-00       1300                    10
      7902 FORD            ANALYST               7566 05-DEC-97       3000                    20

8 rows selected.
```

22) DISPLAY EMPLOYEE'S WHO ARE GETTING COMMISION



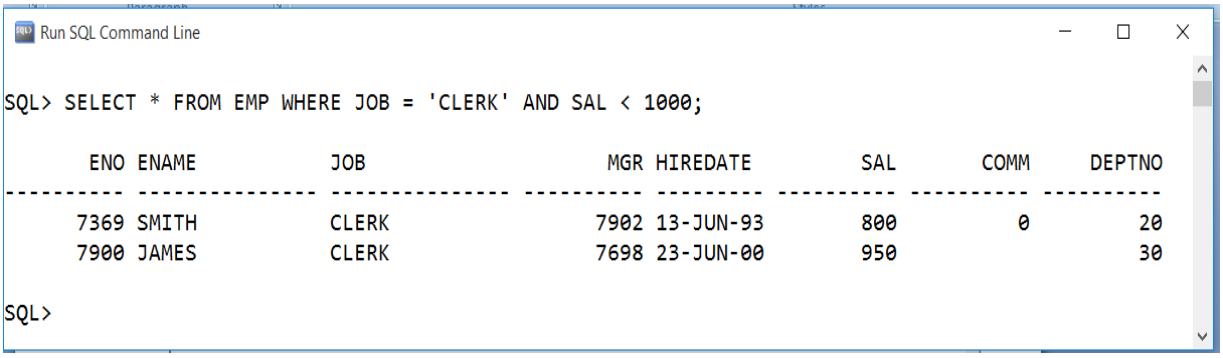
```
Run SQL Command Line

SQL> SELECT * FROM EMP WHERE COMM IS NOT NULL;

       ENO ENAME           JOB                 MGR HIREDATE          SAL       COMM     DEPTNO
---------- --------------- --------------- ---------- --------- ---------- ---------- ----------
      7369 SMITH           CLERK                 7902 13-JUN-93        800          0         20
      7499 ALLEN           SALESMAN              7698 15-AUG-98       1600        300         30
      7521 WARD            SALESMAN              7698 26-MAR-96       1250        500         30
      7839 KING            PRESIDENT                  09-JUN-90       5000          0         10
      7844 TURNER          SALESMAN              7698 04-JUN-95       1500          0         30
      7654 MARTIN          SALESMAN              7698 05-DEC-98       1250       1400         30

6 rows selected.

SQL>
```

23) DISPLAY CLERKS WORKING IN 10TH DEPARTMENT

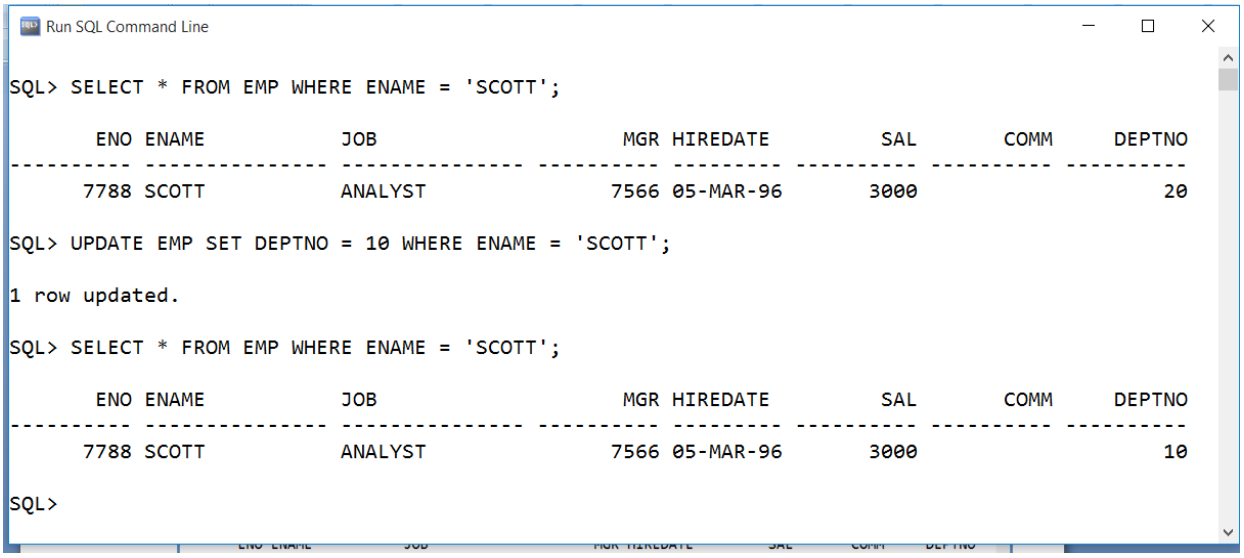


```
Run SQL Command Line

SQL> SELECT * FROM EMP WHERE JOB = 'CLERK' AND DEPTNO = 10;

       ENO ENAME           JOB                 MGR HIREDATE          SAL       COMM     DEPTNO
---------- --------------- --------------- ---------- --------- ---------- ---------- ----------
      7934 MILLER          CLERK                 7782 21-JAN-00       1300                    10

SQL>
```

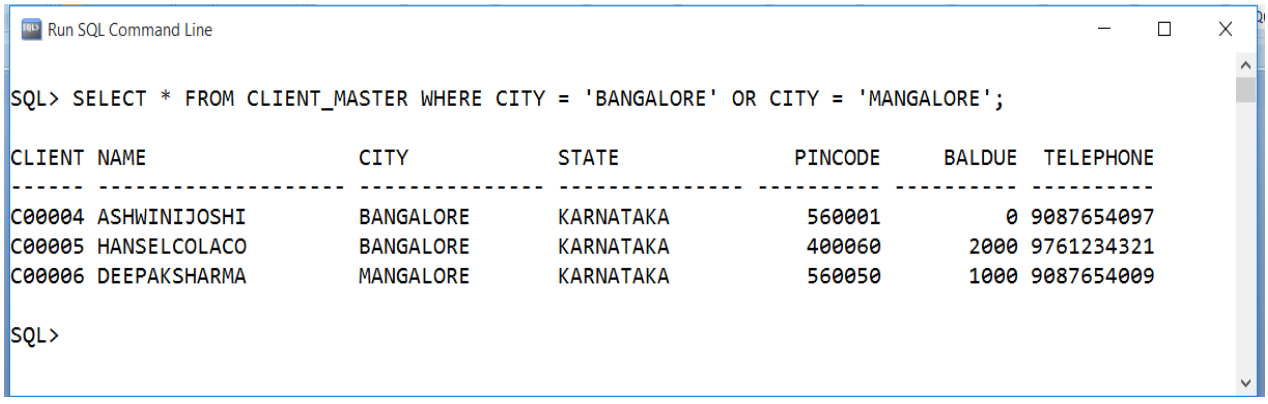
24) DISPLAY CLERKS GETTING SALARY LESS THAN 1000



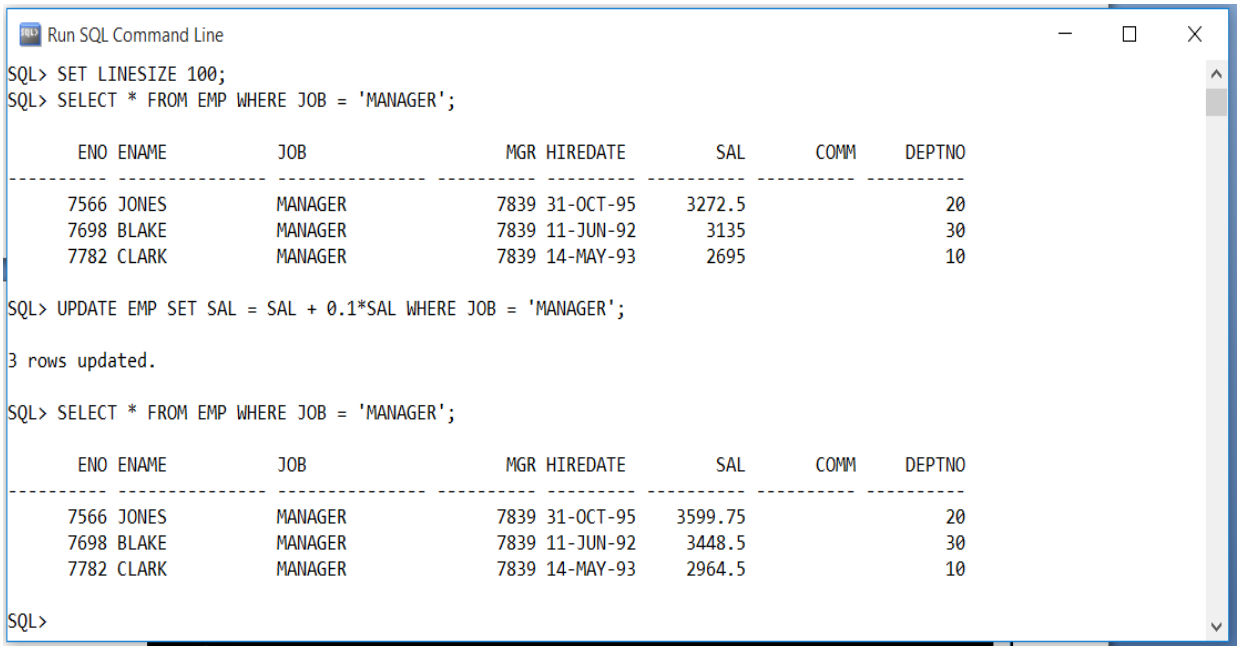
25) CHANGE SCOTT DEPARTMENT TO 10



26) LIST ALL CLIENTS WHO STAY IN BANGALORE OR MANGALORE

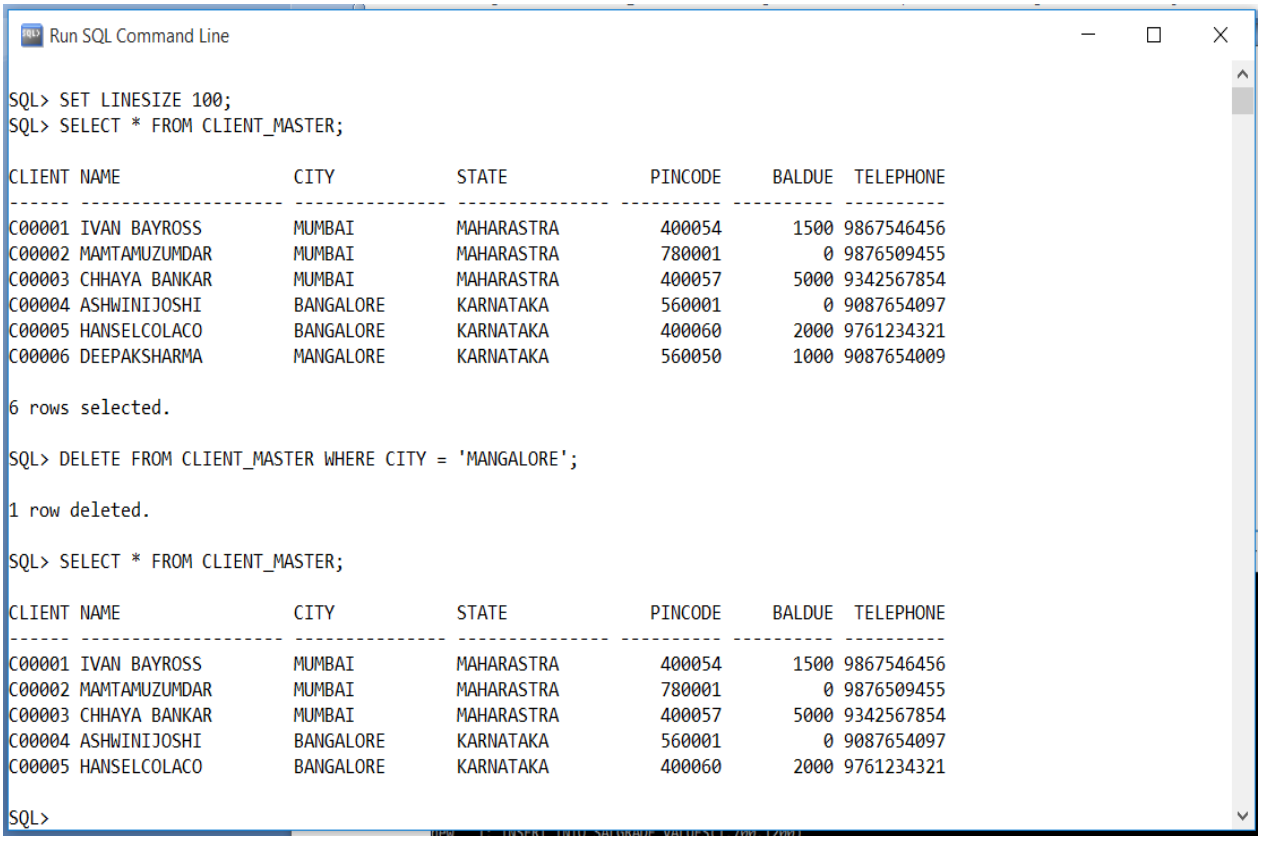


27) INCREASE THE MANAGER'S SALARIES BY 10 %



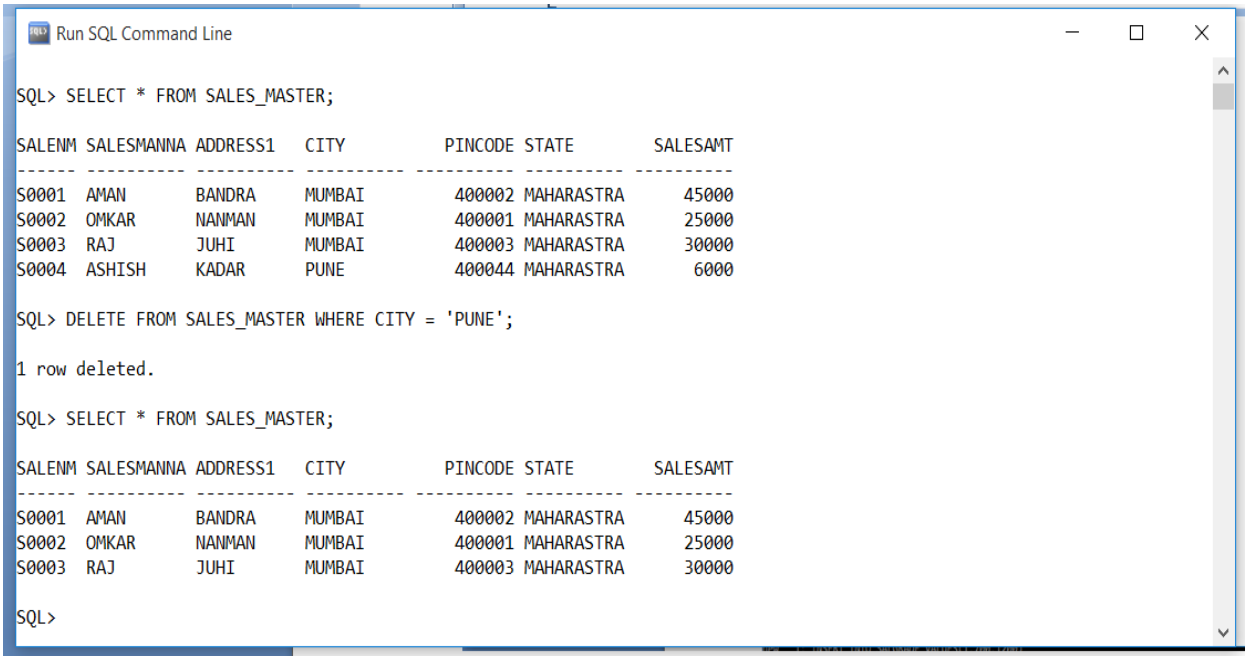
```
Run SQL Command Line

SQL> SET LINESIZE 100;
SQL> SELECT * FROM EMP WHERE JOB = 'MANAGER';

       ENO ENAME           JOB                 MGR HIREDATE         SAL       COMM     DEPTNO
---------- --------------- --------------- ---------- --------- ---------- ---------- ----------
      7566 JONES           MANAGER               7839 31-OCT-95     3272.5                    20
      7698 BLAKE           MANAGER               7839 11-JUN-92       3135                    30
      7782 CLARK           MANAGER               7839 14-MAY-93       2695                    10

SQL> UPDATE EMP SET SAL = SAL + 0.1*SAL WHERE JOB = 'MANAGER';

3 rows updated.

SQL> SELECT * FROM EMP WHERE JOB = 'MANAGER';

       ENO ENAME           JOB                 MGR HIREDATE         SAL       COMM     DEPTNO
---------- --------------- --------------- ---------- --------- ---------- ---------- ----------
      7566 JONES           MANAGER               7839 31-OCT-95    3599.75                    20
      7698 BLAKE           MANAGER               7839 11-JUN-92     3448.5                    30
      7782 CLARK           MANAGER               7839 14-MAY-93     2964.5                    10

SQL>
```

28) REMOVE CLIENTS WHO STAY IN MANGALORE

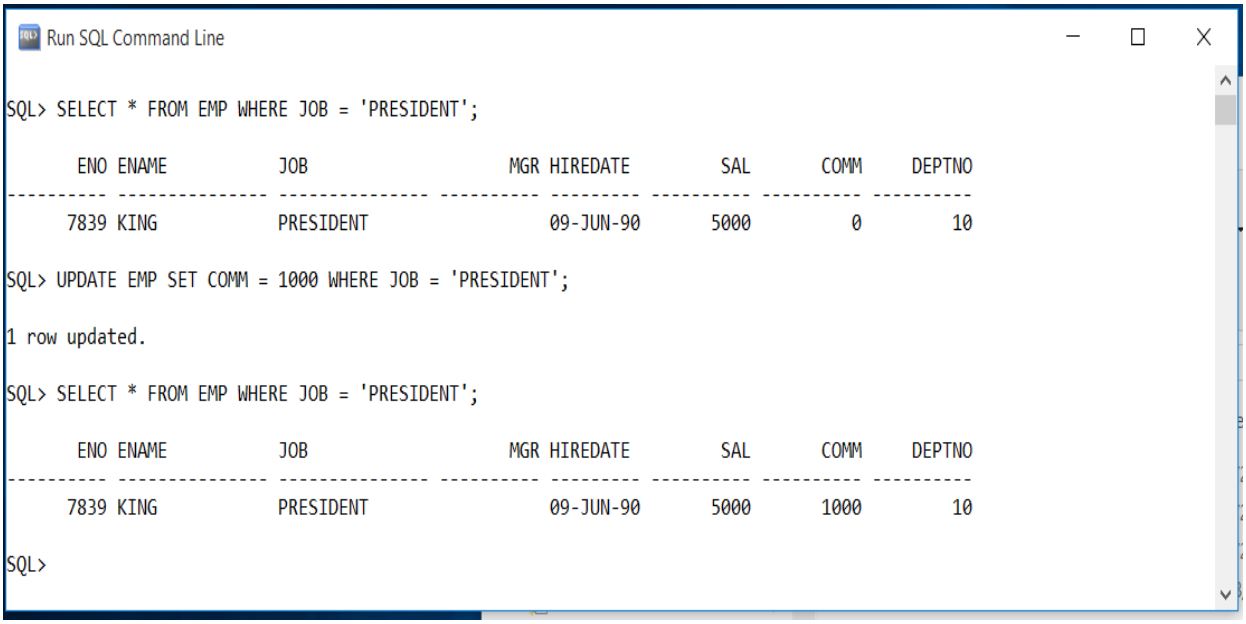


```
Run SQL Command Line

SQL> SET LINESIZE 100;
SQL> SELECT * FROM CLIENT_MASTER;

CLIENT NAME                CITY            STATE             PINCODE     BALDUE  TELEPHONE
------ ------------------- --------------- --------------- ---------- ---------- ----------
C00001 IVAN BAYROSS        MUMBAI          MAHARASTRA          400054       1500 9867546456
C00002 MAMTAMUZUMDAR       MUMBAI          MAHARASTRA          780001          0 9876509455
C00003 CHHAYA BANKAR       MUMBAI          MAHARASTRA          400057       5000 9342567854
C00004 ASHWINIJOSHI        BANGALORE       KARNATAKA           560001          0 9087654097
C00005 HANSELCOLACO        BANGALORE       KARNATAKA           400060       2000 9761234321
C00006 DEEPAKSHARMA        MANGALORE       KARNATAKA           560050       1000 9087654009

6 rows selected.

SQL> DELETE FROM CLIENT_MASTER WHERE CITY = 'MANGALORE';

1 row deleted.

SQL> SELECT * FROM CLIENT_MASTER;

CLIENT NAME                CITY            STATE             PINCODE     BALDUE  TELEPHONE
------ ------------------- --------------- --------------- ---------- ---------- ----------
C00001 IVAN BAYROSS        MUMBAI          MAHARASTRA          400054       1500 9867546456
C00002 MAMTAMUZUMDAR       MUMBAI          MAHARASTRA          780001          0 9876509455
C00003 CHHAYA BANKAR       MUMBAI          MAHARASTRA          400057       5000 9342567854
C00004 ASHWINIJOSHI        BANGALORE       KARNATAKA           560001          0 9087654097
C00005 HANSELCOLACO        BANGALORE       KARNATAKA           400060       2000 9761234321

SQL>
```

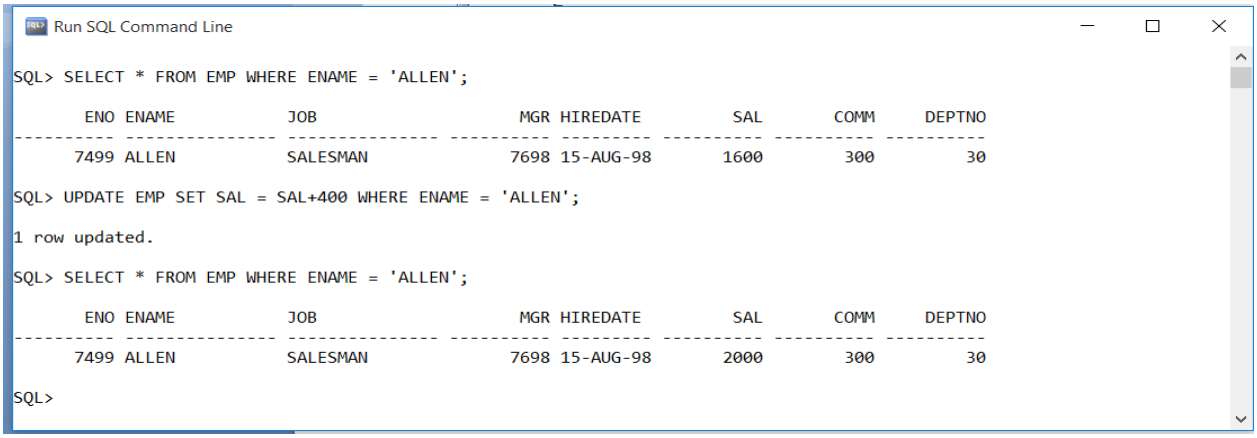
29) REMOVE SALESPERSON WHO STAY IN PUNE



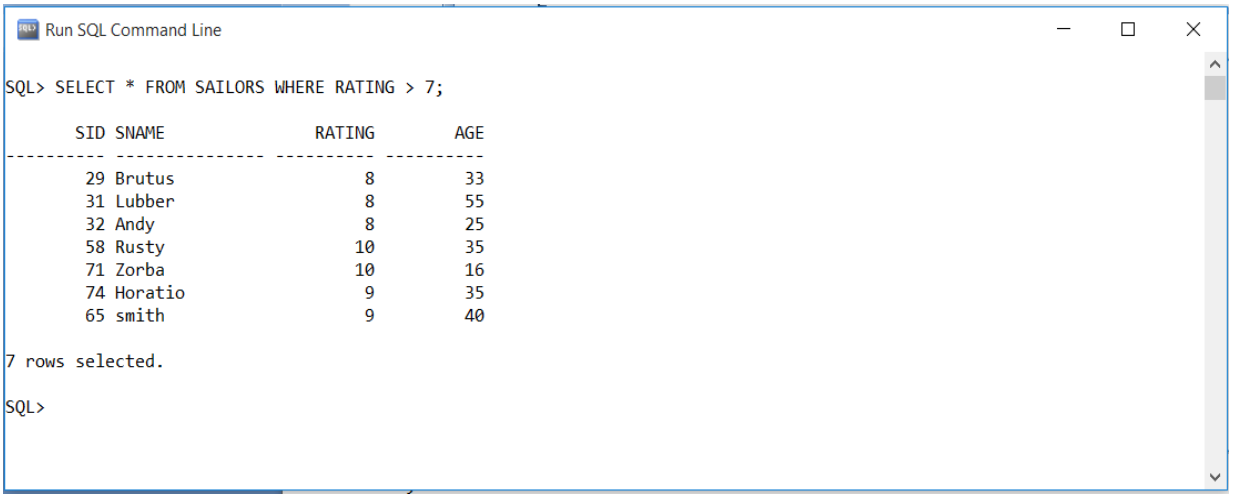
30) CHANGE PRESIDENT'S COMMISION TO 1000



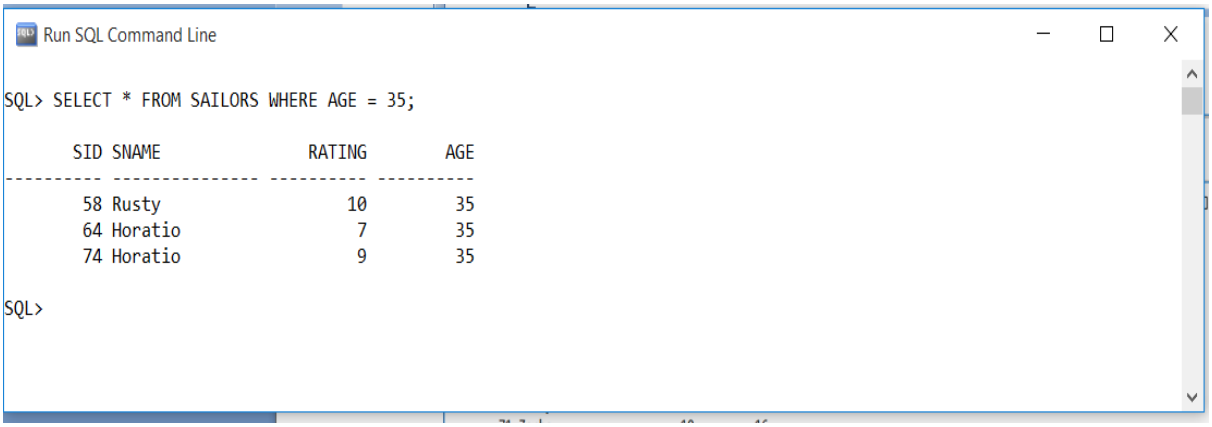
31) INCREASE ALLEN SALARY BY 400 RUPEES



32) DISPLAY SAILORS WHOSE RATING IS GREATER THAN 7



33) DISPLAY SAILORS WITH 35 YEARS OLD

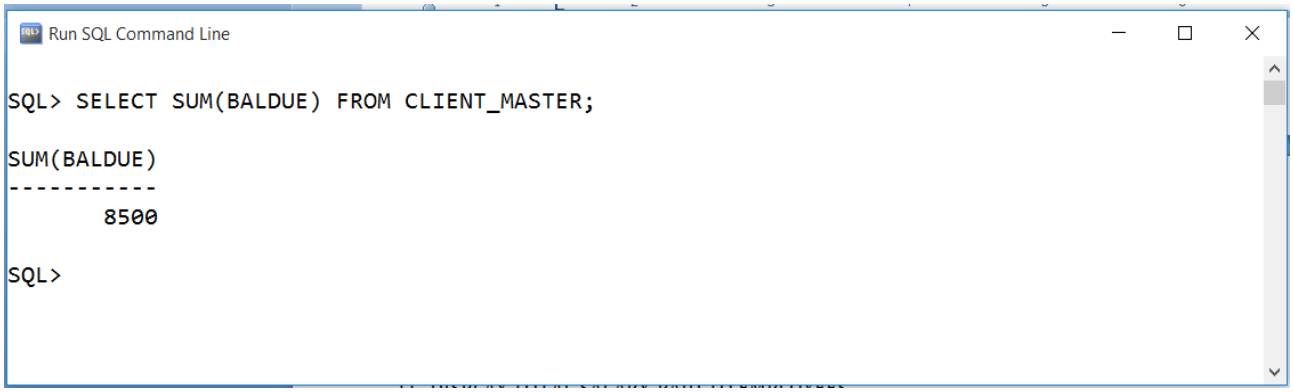


EXERCISE NO. 3

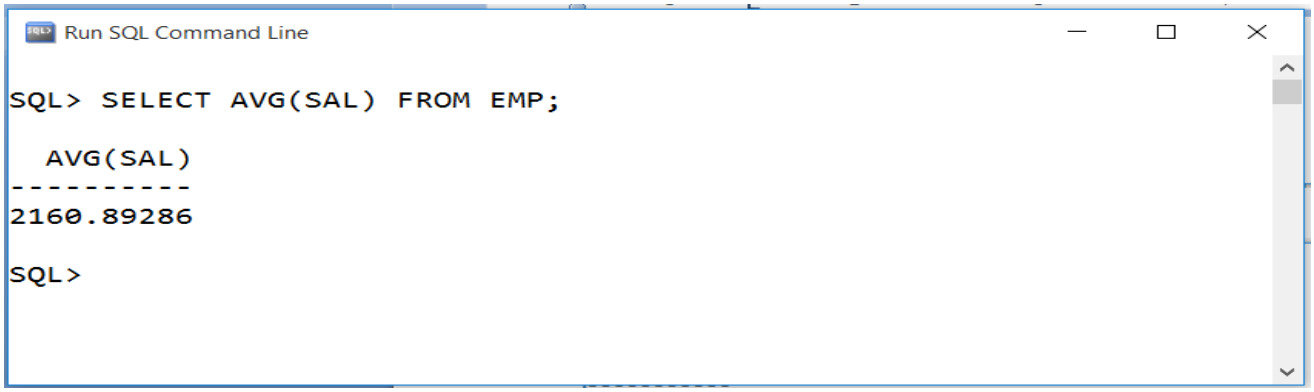
AIM : TO ILLUSTRATE SQL FUNCTIONS

1) DISPLAY TOTAL SALARY PAID TO EMPLOYEES

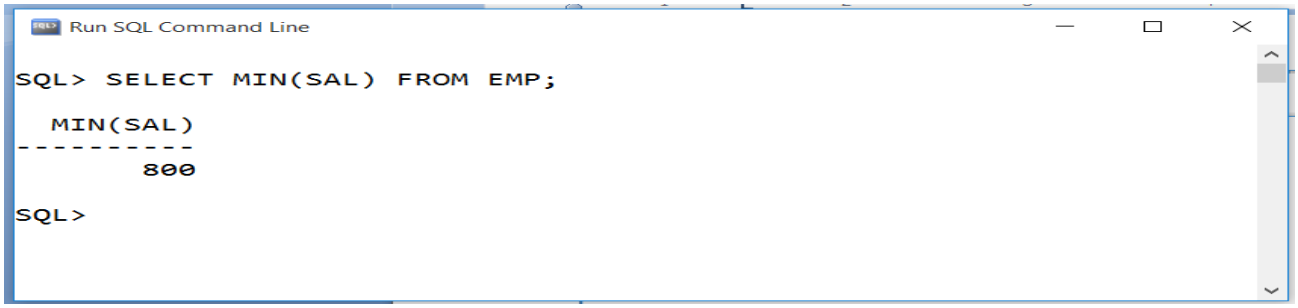
2) DISPLAY TOTAL BALANCE DUE OF CLIENTS



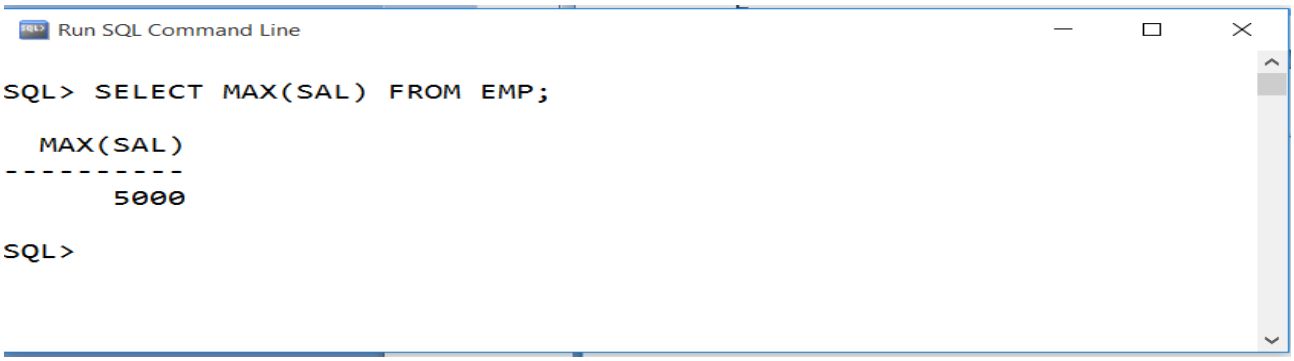
3) DISPLAY AVERAGE SALARY PAID TO EMPLOYEES



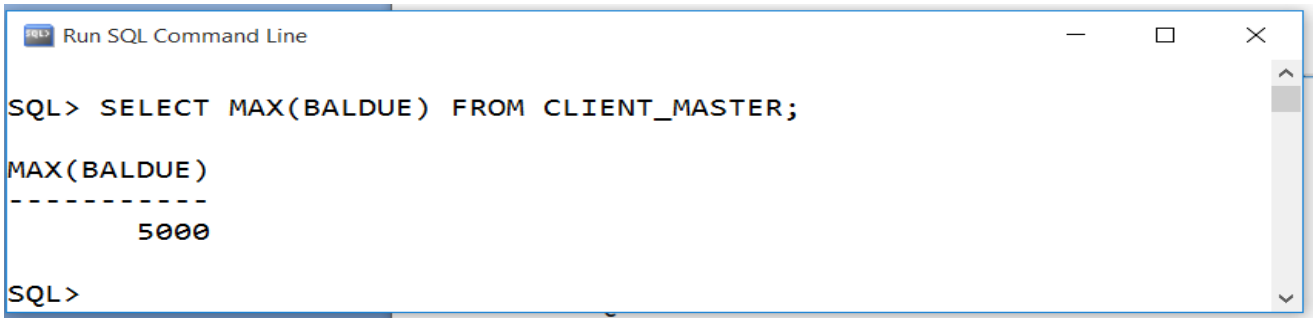
4) DISPLAY MINIMUM SALARY PAID TO EMPLOYEES



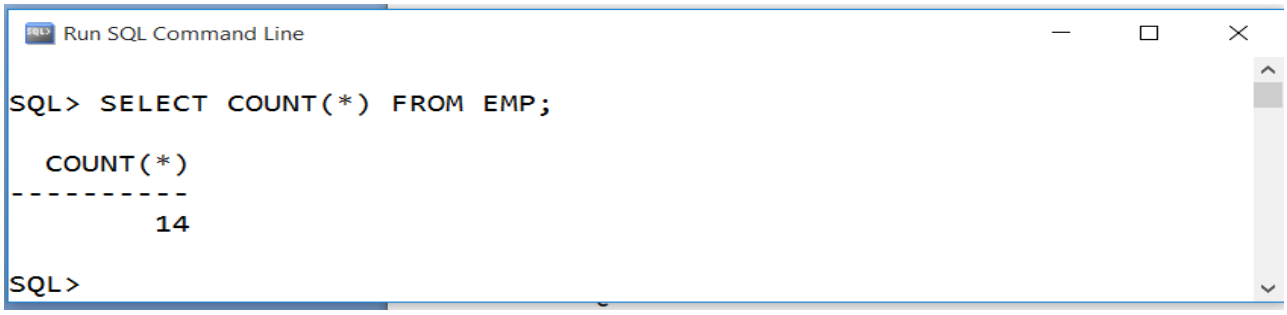
5) DISPLAY MAXIMUM SALARY PAID TO EMPLOYEES



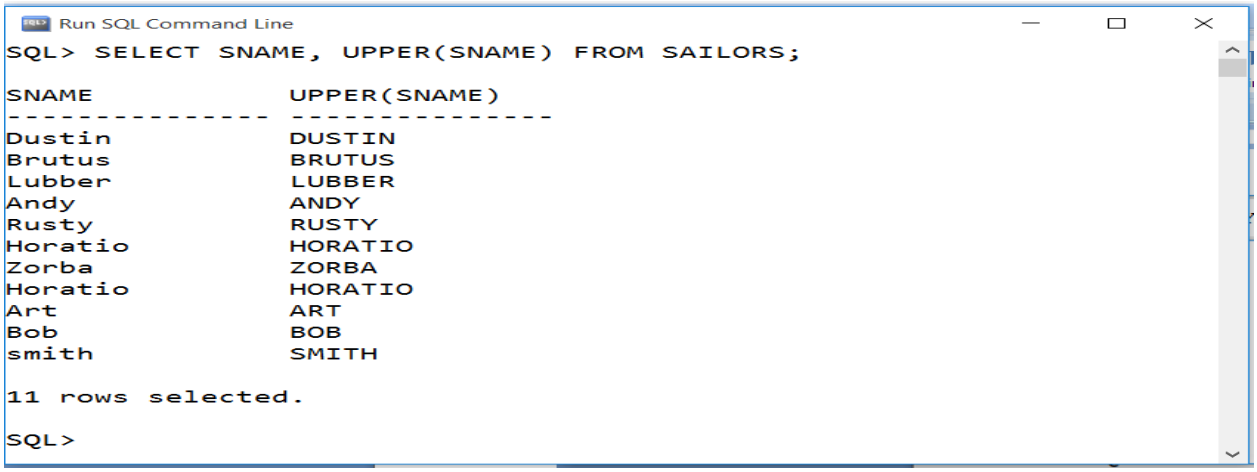
6) DISPLAY MAXIMUM DUE BY THE CLIENTS



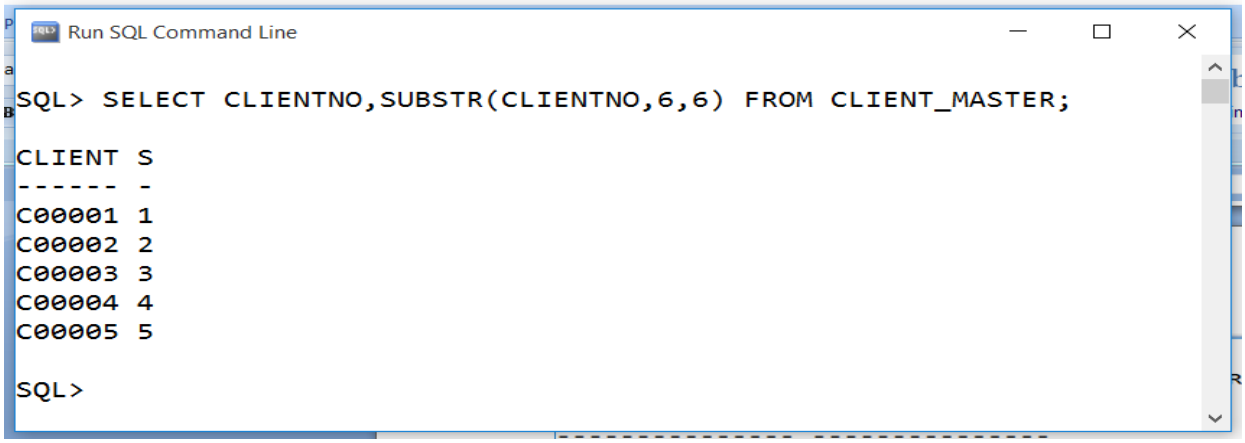
7) DISPLAY TOTAL NUMBER OF EMPLOYEES IN THE COMPANY



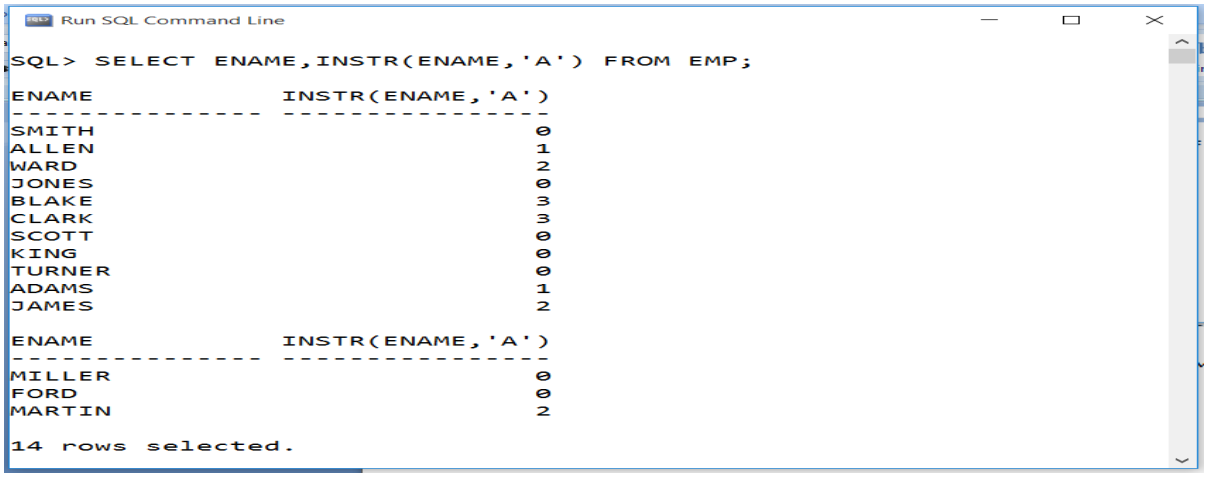
8) DISPLAY ALL SAILOR NAMES IN UPPER CASE



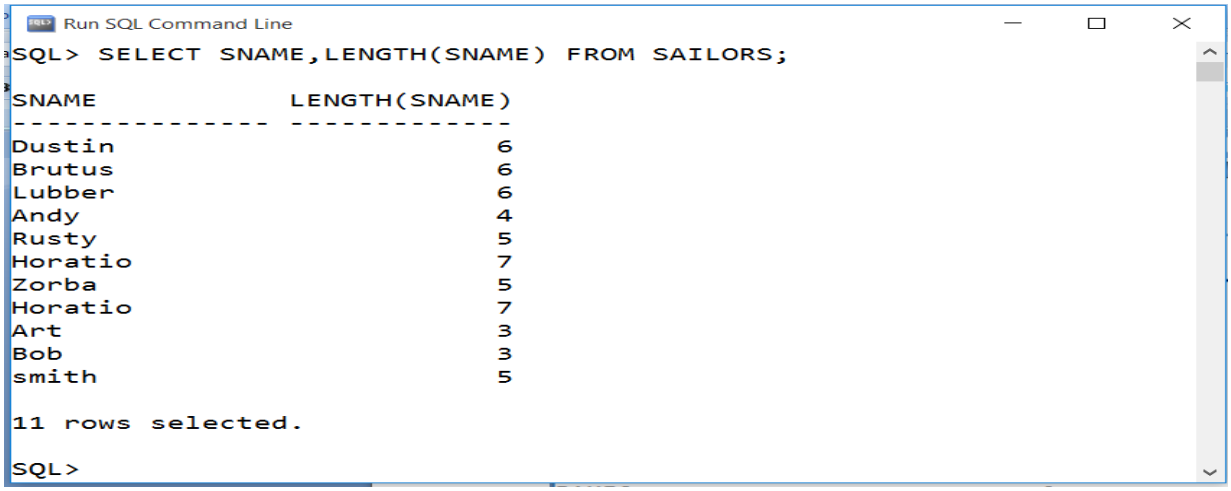
9) EXTRACT ONLY LAST DIGIT OF CLIENT NO.



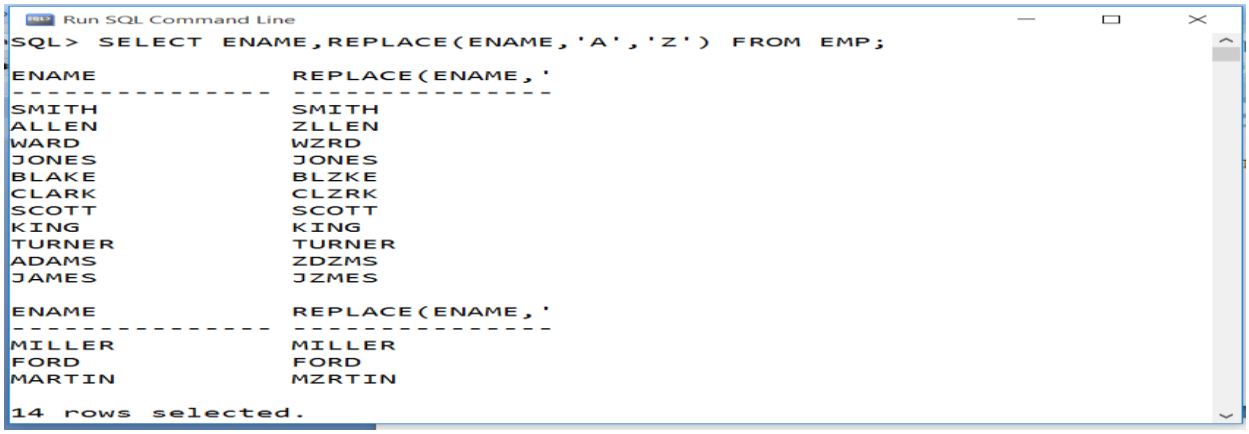
10) DISPLAY THE POSITION OF FIRST OCCURRENCE OF 'A' IN EMPLOYEE NAME



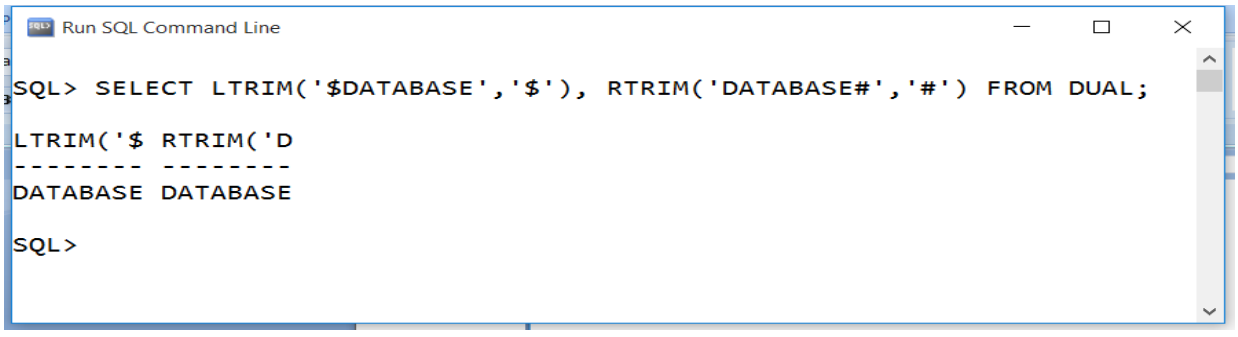
11) DISPLAY LENGTH OF SAILORS NAME



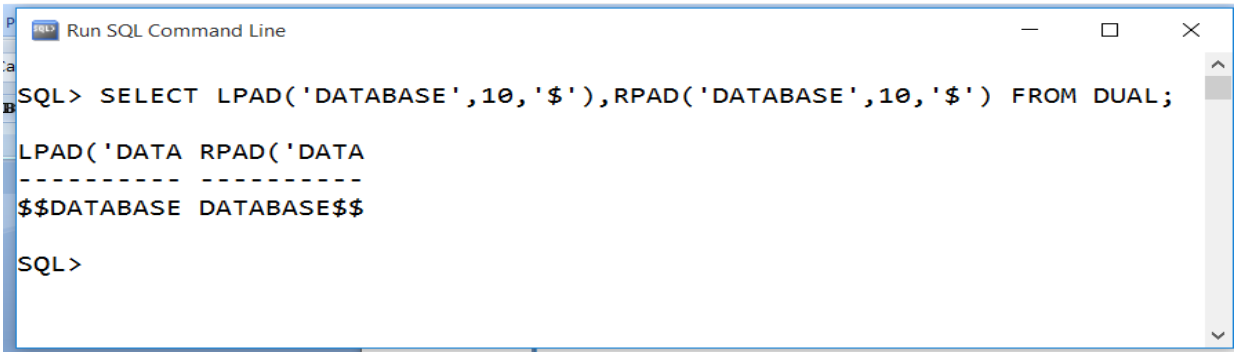
12) REPLACE ALL OCCURRENCE OF 'A' IN EMPLOYEE NAME WITH 'Z'



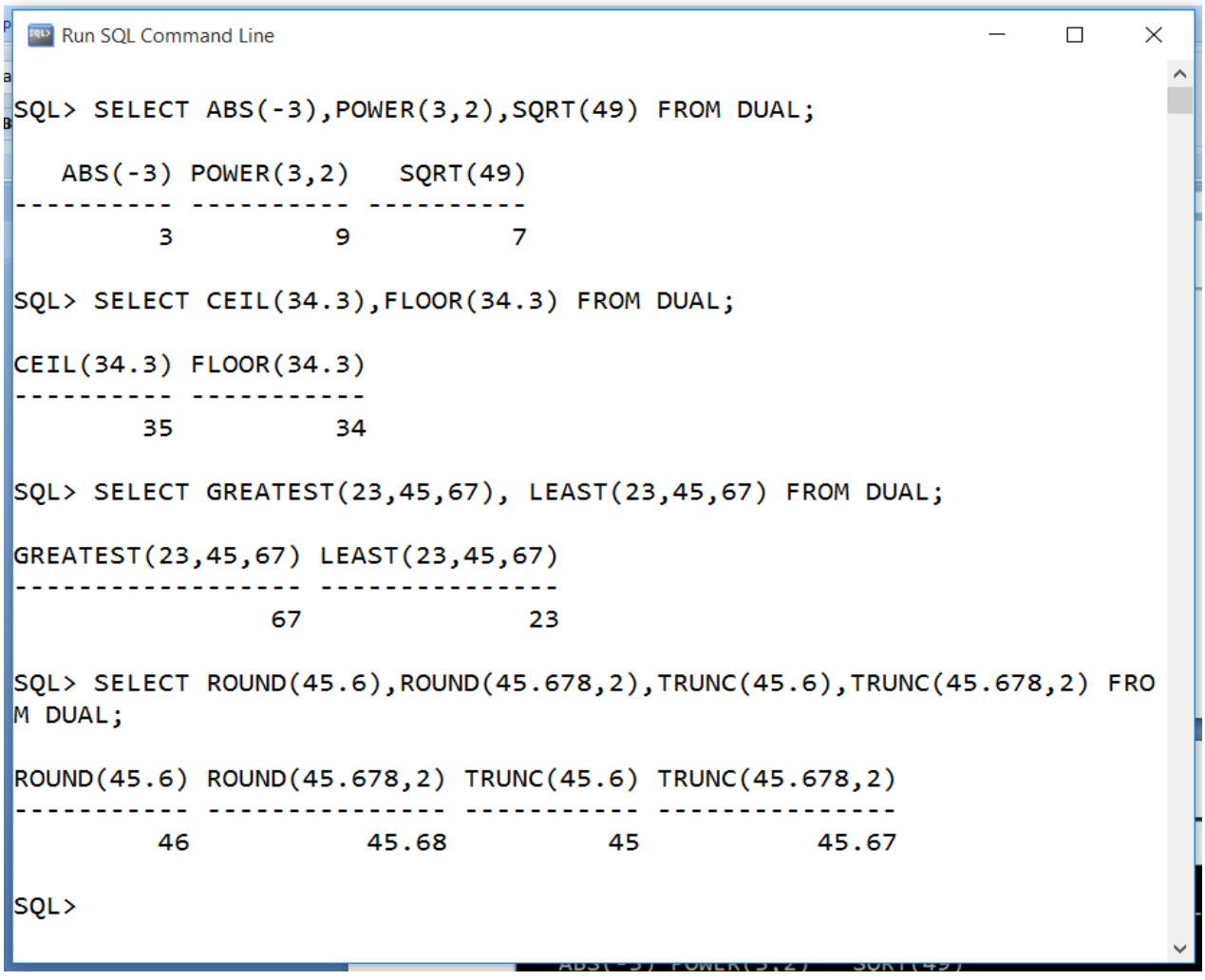
13) ILLUSTRATE LTRIM AND RTRIM



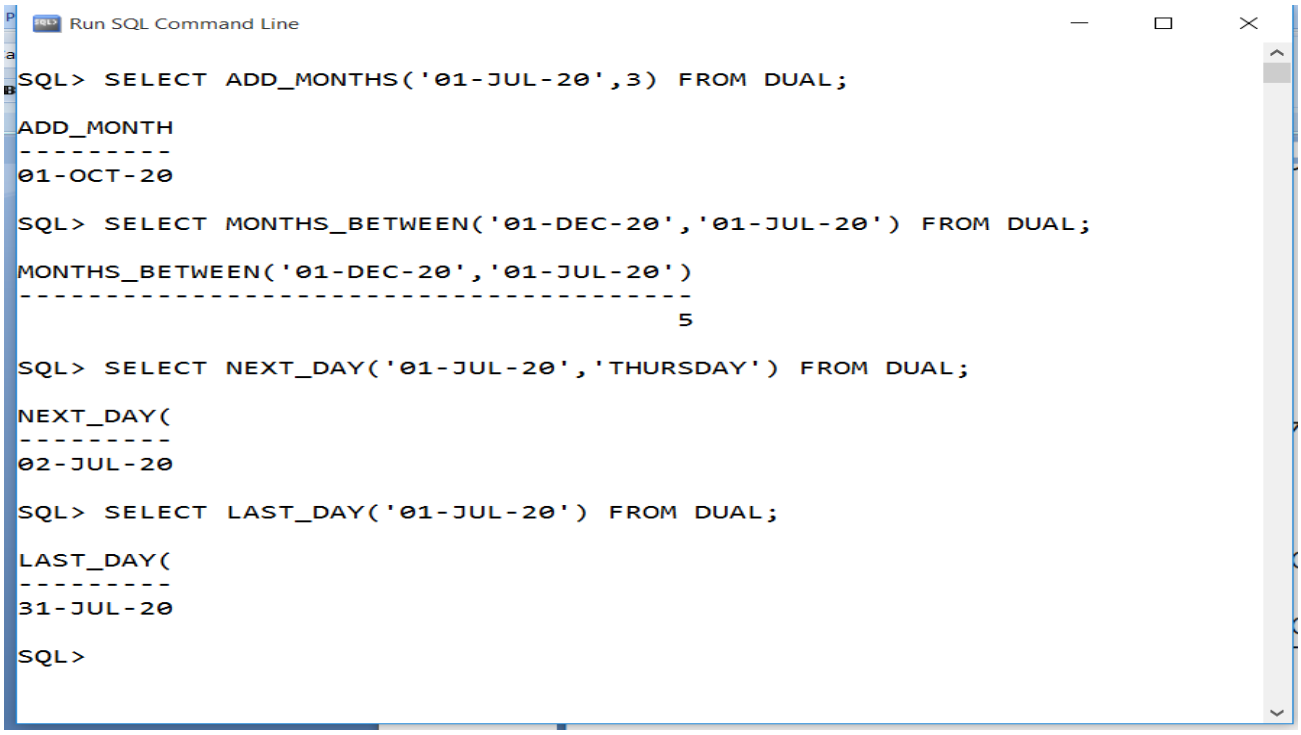
14) ILLUSTRATE LPAD AND RPAD



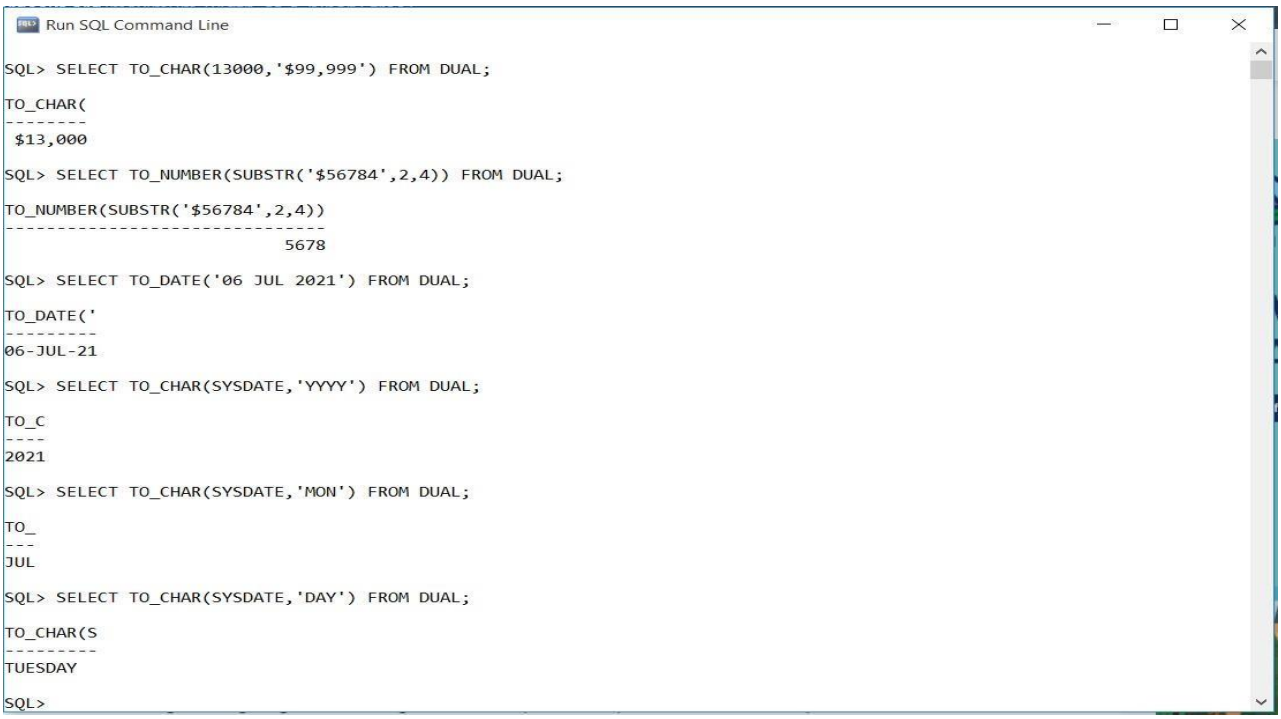
15) ILLUSTRATE ALL NUMBER FUNCTIONS



16) ILLUSTRATE ALL DATE FUNCTIONS



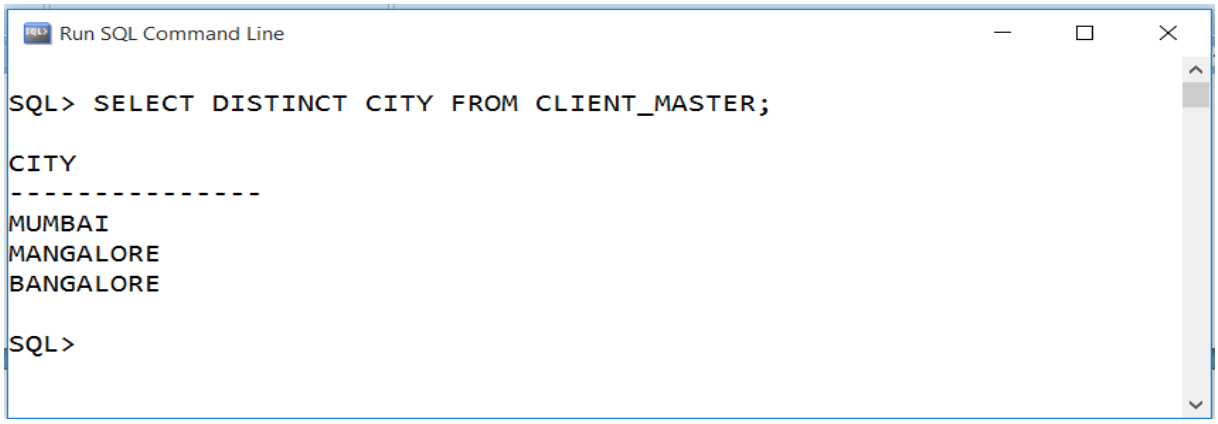
17) ILLUSTRATE CONVERSION FUNCTIONS



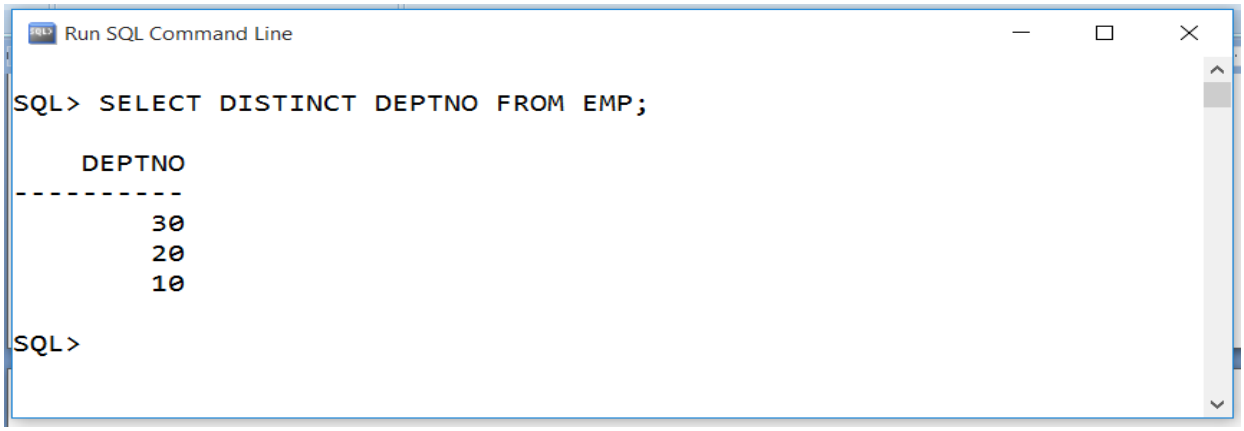
EXERCISE NO.4

AIM : TO ILLUSTRATE SQL CLAUSES LIKE DISTINCT, ORDER BY, GROUP BY AND HAVING

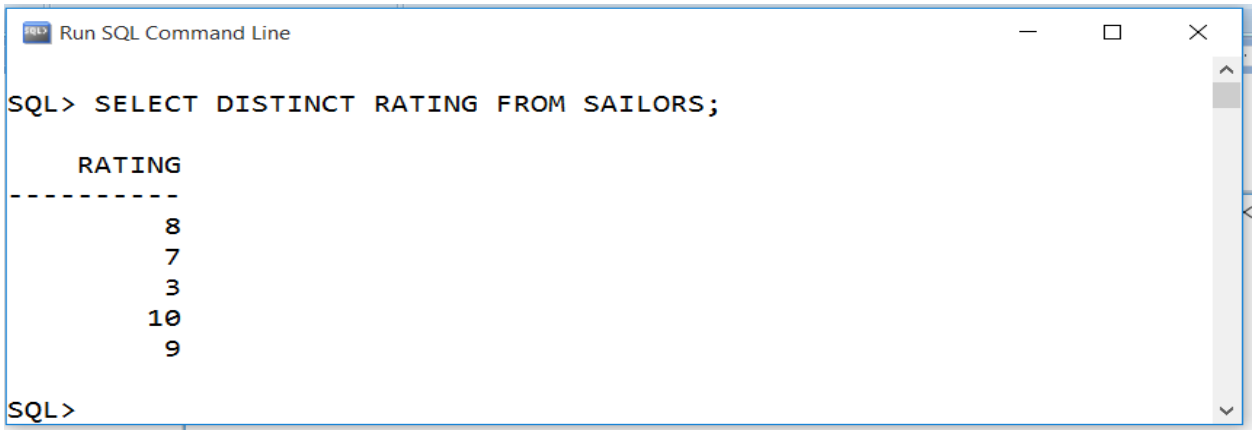
1) DISPLAY DISTINCT CLIENT CITIES



2) DISPLAY EMPLOYEES DISTINCT DEPARTMENT NUMBERS



3) DISPLAY SAILORS DISTINCT RATINGS



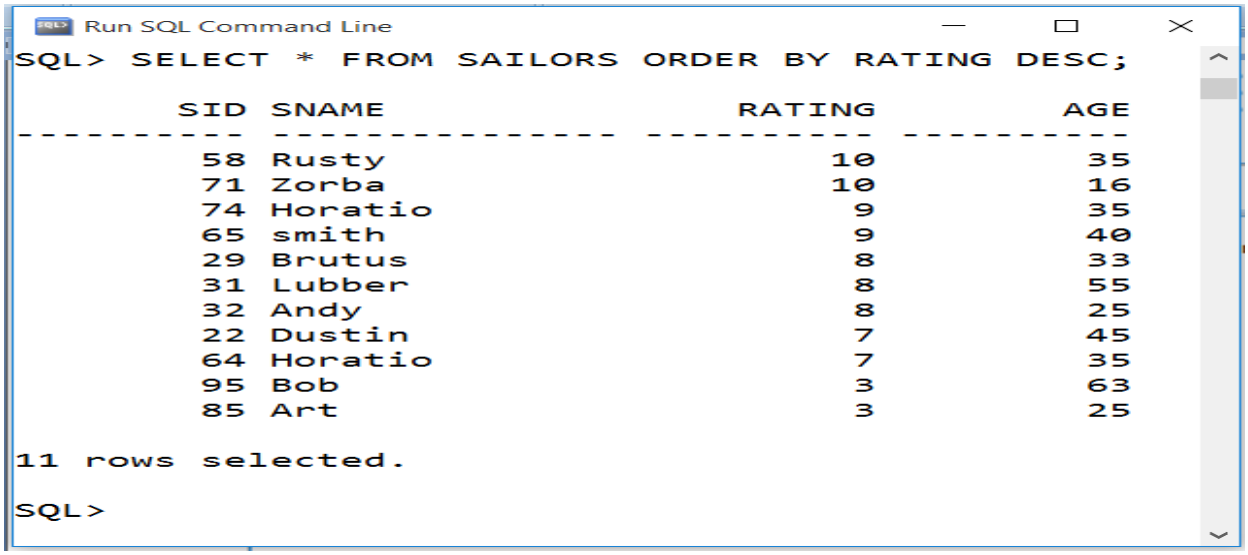
4) DISPLAY EMPLOYEES IN AN APLABETIC ORDER

```
Run SQL Command Line
SQL> SET LINESIZE 100;
SQL> SELECT * FROM EMP ORDER BY ENAME;

      ENO ENAME          JOB                 MGR HIREDATE         SAL       COMM     DEPTNO
--------- -------------- -------------- --------- --------- ---------- ---------- ----------
     7876 ADAMS          CLERK                7788 04-JUN-99       1100                    20
     7499 ALLEN          SALESMAN             7698 15-AUG-98       1600        300         30
     7698 BLAKE          MANAGER              7839 11-JUN-92       3135                    30
     7782 CLARK          MANAGER              7839 14-MAY-93       2695                    10
     7902 FORD           ANALYST              7566 05-DEC-97       3000                    20
     7900 JAMES          CLERK                7698 23-JUN-00        950                    30
     7566 JONES          MANAGER              7839 31-OCT-95     3272.5                    20
     7839 KING           PRESIDENT                 09-JUN-90       5000          0         10
     7654 MARTIN         SALESMAN             7698 05-DEC-98       1250       1400         30
     7934 MILLER         CLERK                7782 21-JAN-00       1300                    10
     7788 SCOTT          ANALYST              7566 05-MAR-96       3000                    10

      ENO ENAME          JOB                 MGR HIREDATE         SAL       COMM     DEPTNO
--------- -------------- -------------- --------- --------- ---------- ---------- ----------
     7369 SMITH          CLERK                7902 13-JUN-93        800          0         20
     7844 TURNER         SALESMAN             7698 04-JUN-95       1500          0         30
     7521 WARD           SALESMAN             7698 26-MAR-96       1250        500         30

14 rows selected.
```

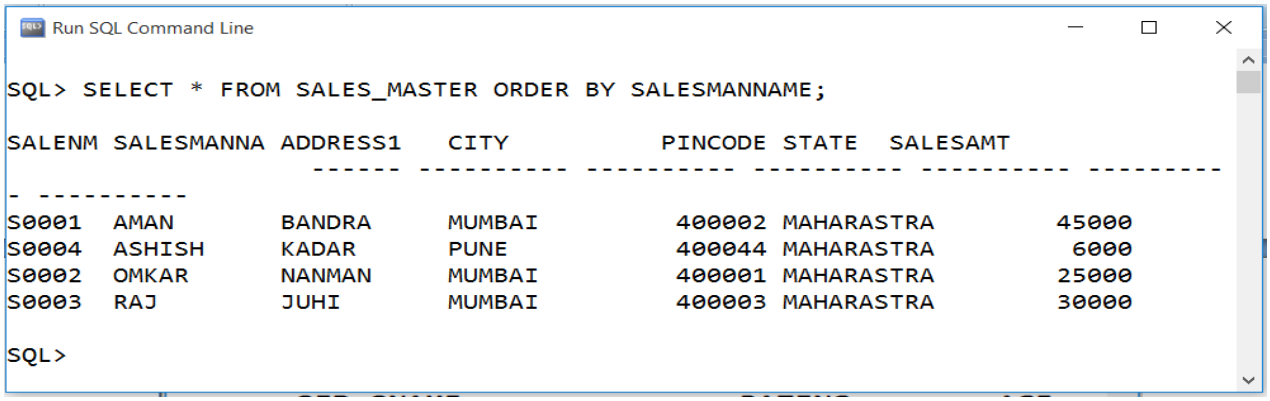
5) DISPLAY EMPLOYEE'S SALARY IN DESCENDING ORDER

```
Run SQL Command Line
SQL> SELECT ENAME,SAL FROM EMP ORDER BY SAL DESC;

ENAME                          SAL
---------------- -----------
KING                          5000
JONES                       3272.5
BLAKE                         3135
SCOTT                         3000
FORD                          3000
CLARK                         2695
ALLEN                         1600
TURNER                        1500
MILLER                        1300
MARTIN                        1250
WARD                          1250

ENAME                          SAL
---------------- -----------
ADAMS                         1100
JAMES                          950
SMITH                          800

14 rows selected.
```

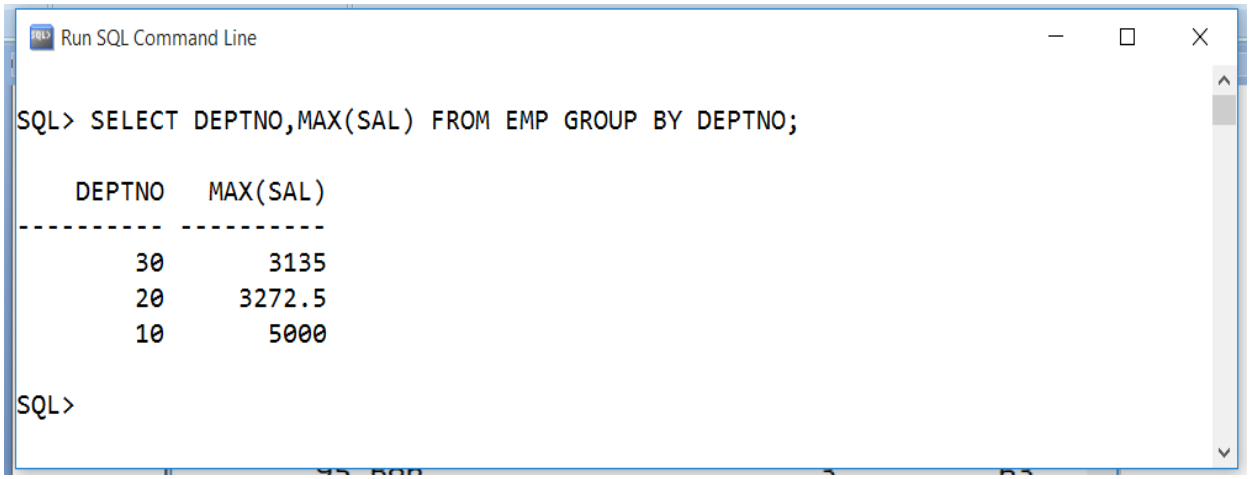
6) DISPLAY SAILORS RATINGS IN DESCENDING ORDER



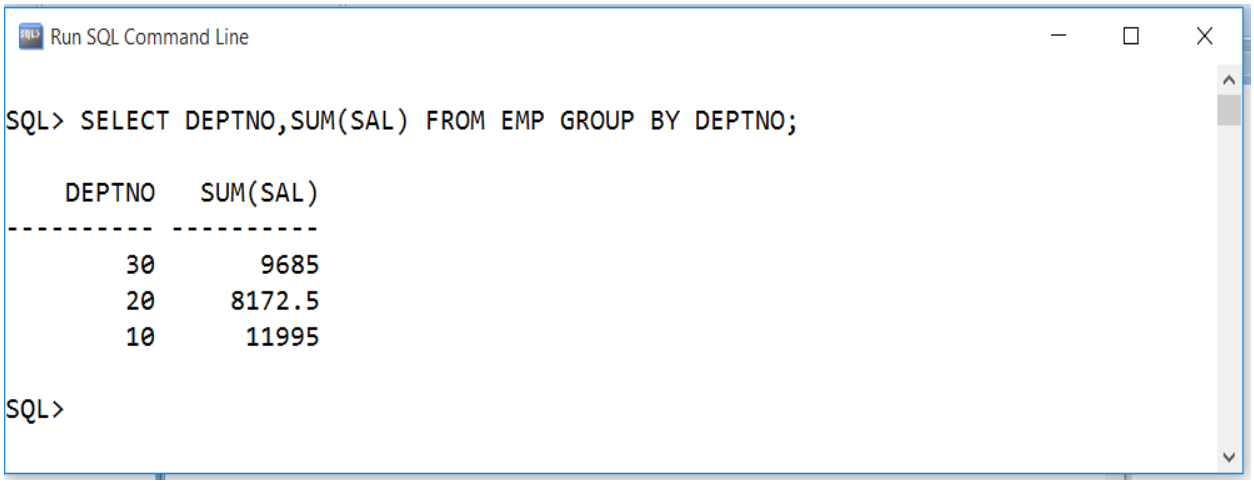
7) DISPLAY SALESMAN NAMES IN ASCENDING ORDER



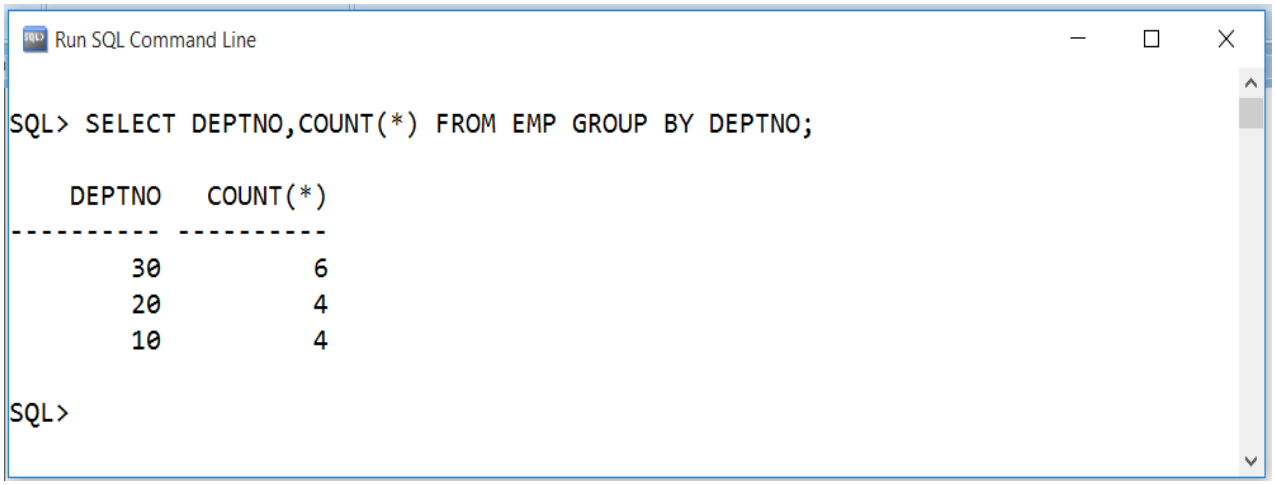
8) DISPLAY MAXIMUM SALARY IN EACH DEPARTMENT



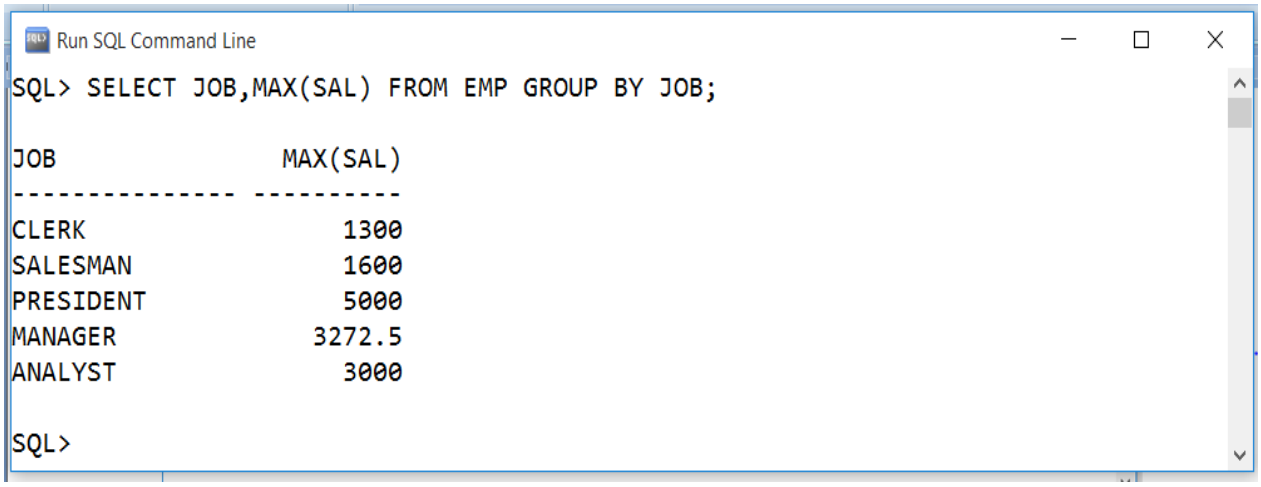
9) DISPLAY TOTAL SALARY PAID TO EACH DEPARTMENT



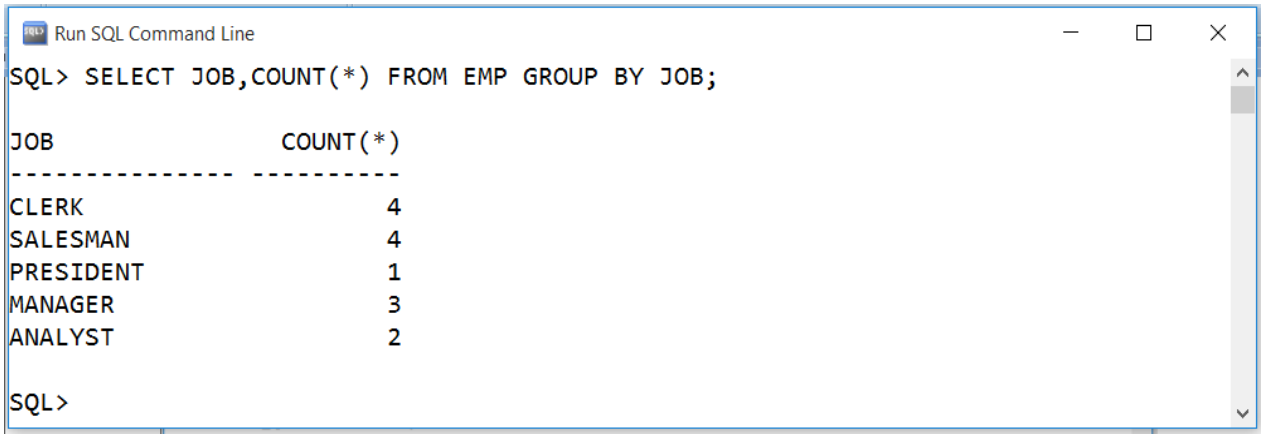
10) DISPLAY NUMBER OF EMPLOYEES IN EACH DEPARTMENT



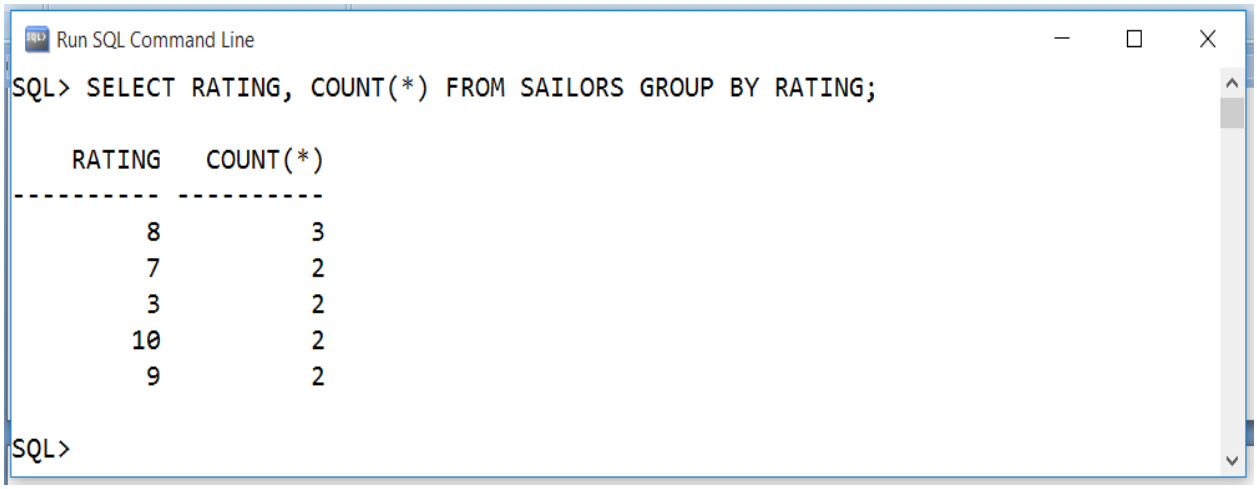
11) DISPLAY MAXIMUM SALARY PAID TO EACH DESIGNATION



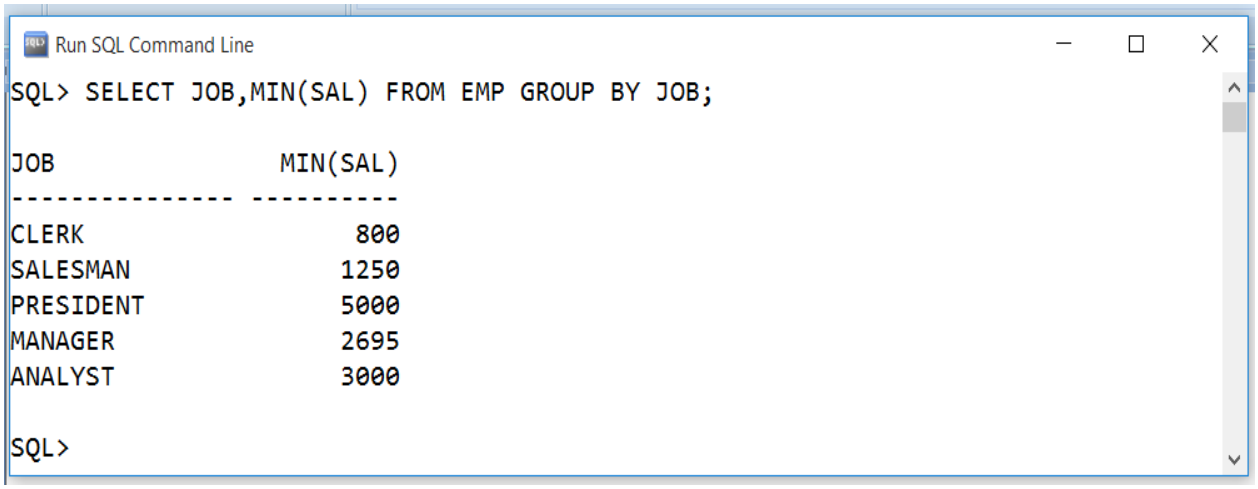
12) DISPLAY NUMBER OF EMPLOYEES IN EACH DESIGNATION



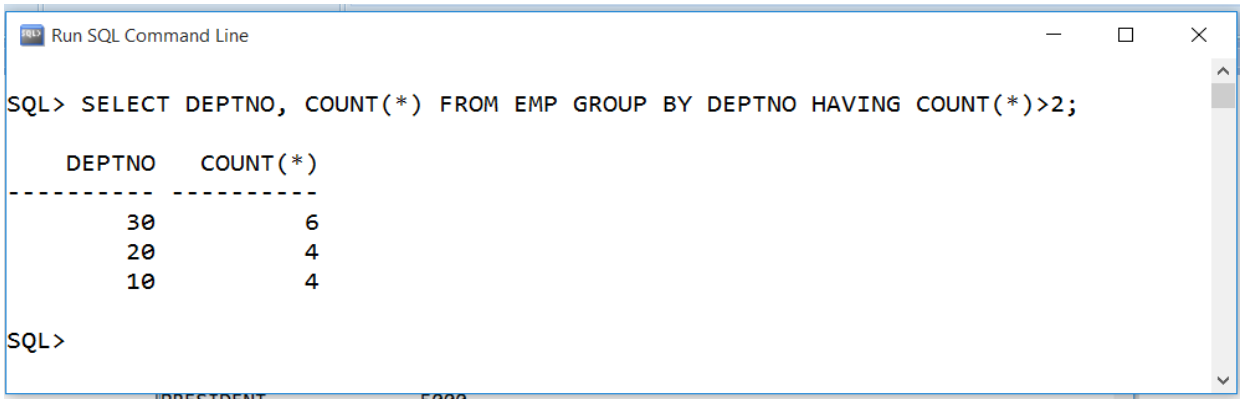
13) DISPLAY NUMBER OF SAILORS IN EACH RATING



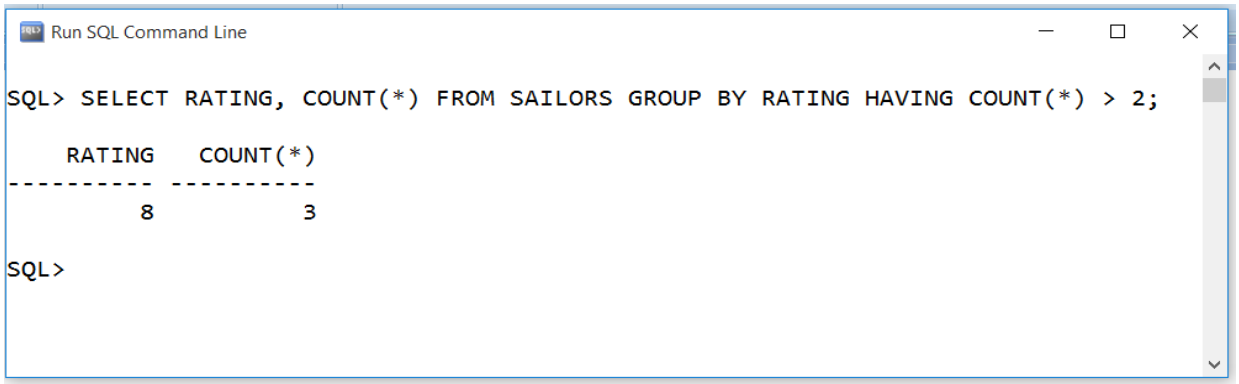
14) DISPLAYMINIMUM SALARY IN EACH DESIGNATION



15) DISPLAY DEPARTMENT NUMBER THAT HAS MORE THAN 2 EMPLOYEES



16) DISPLAY RATINGS WHICH HAS MORE THAN 2 SAILORS

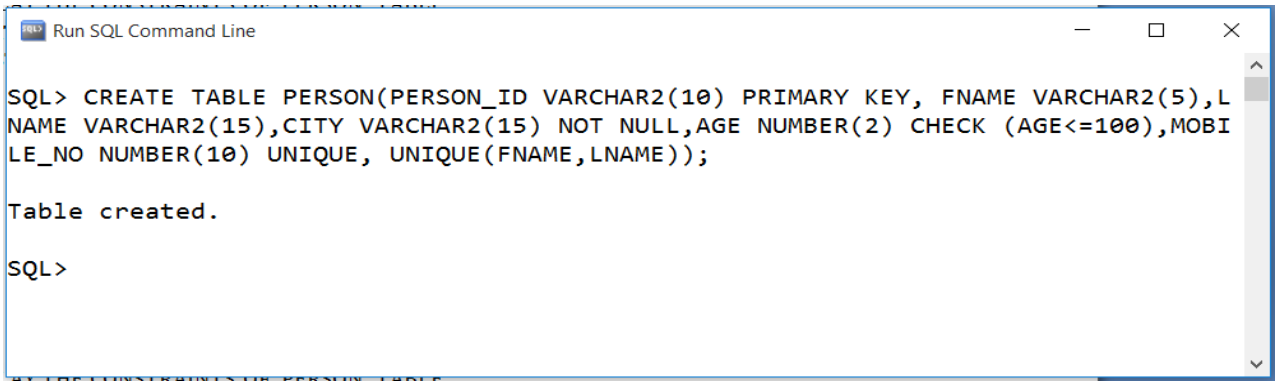


EXERCISE NO.5

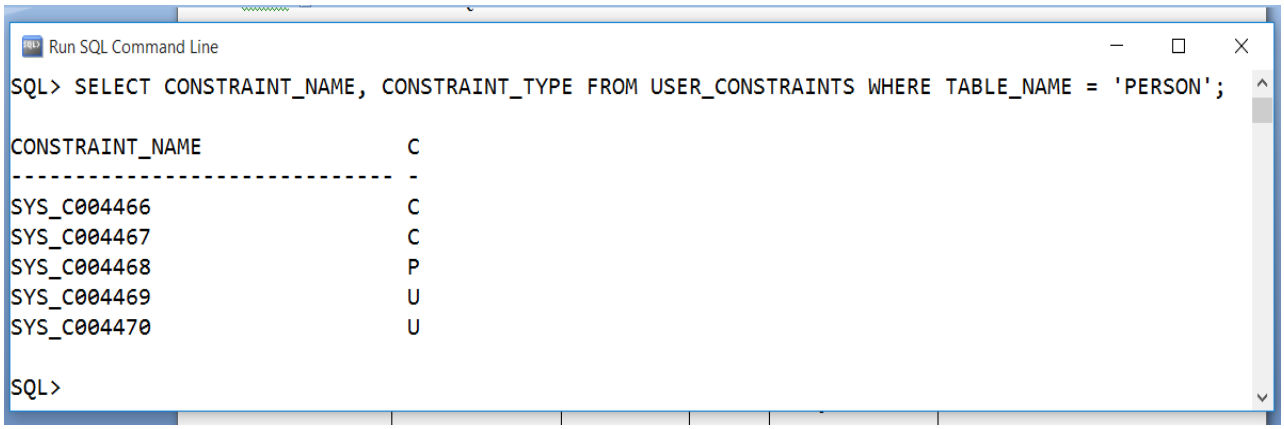
AIM : TO ILLUSTRATE SQL CONSTRAINTS

1) CREATE A TABLE CALLED 'PERSON' WITH THE FOLLOWING STRUCTURE(USING SYSTEM GENERATED CONSTRAINTS)

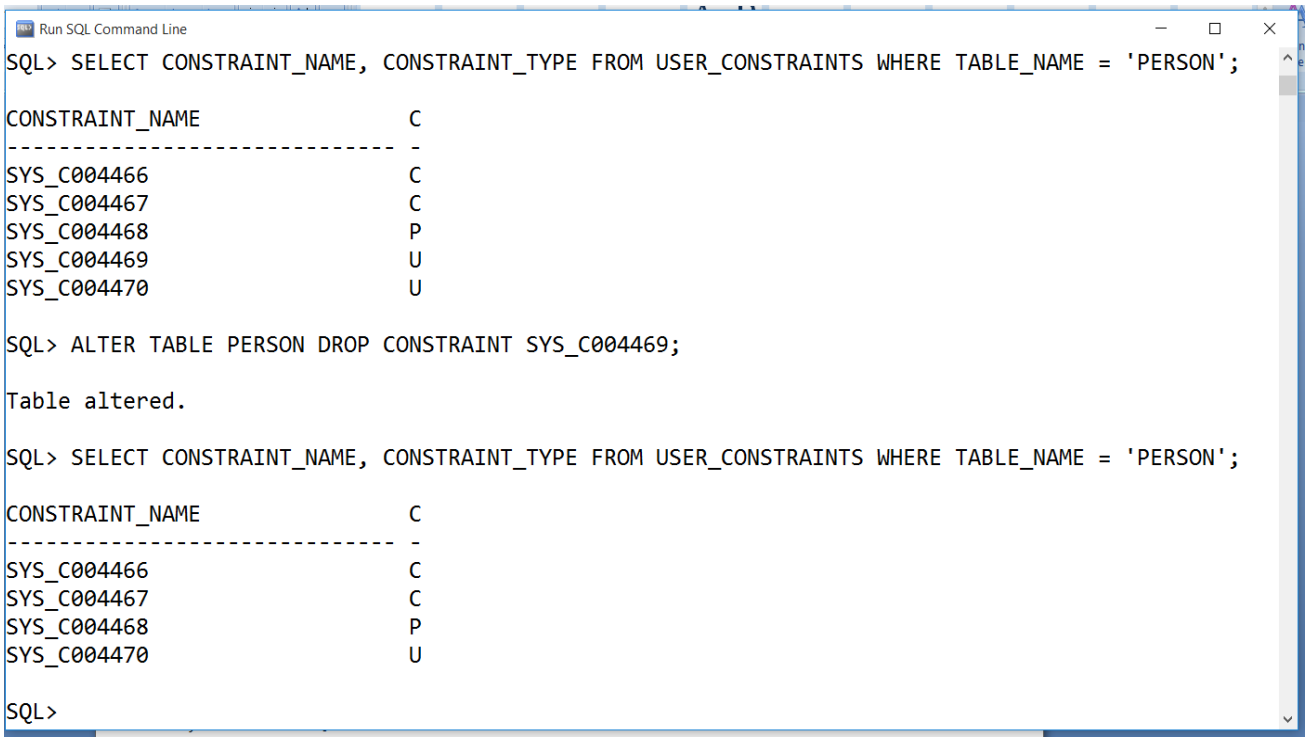
COLUMN NAME	DATATYPE	SIZE	CONSTRAINTS
PERSON_ID	VARCHAR2	10	PRIMARY KEY
FNAME	VARCHAR2	5	UNIQUE(TABLE LEVEL CONSTRAINT)
LNAME	VARCHAR2	15	
CITY	VARCHAR2	15	NOT NULL
AGE	NUMBER	2	<=100
MOBILE_NO	NUMBER	10	UNIQUE



2) DISPLAY THE CONSTRAINTS OF 'PERSON' TABLE



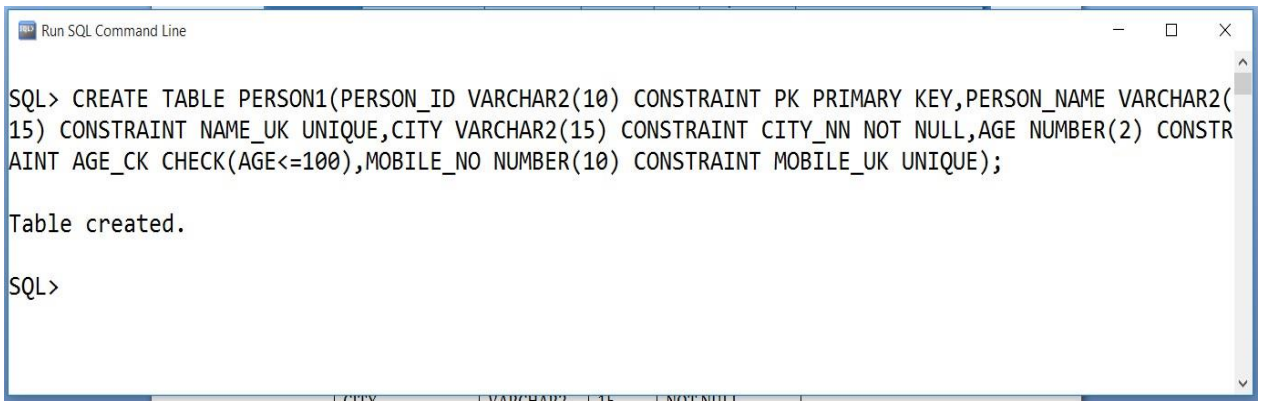
3) DROP THE UNIQUE CONSTRINT ATTACHED TO MOBILE_NO



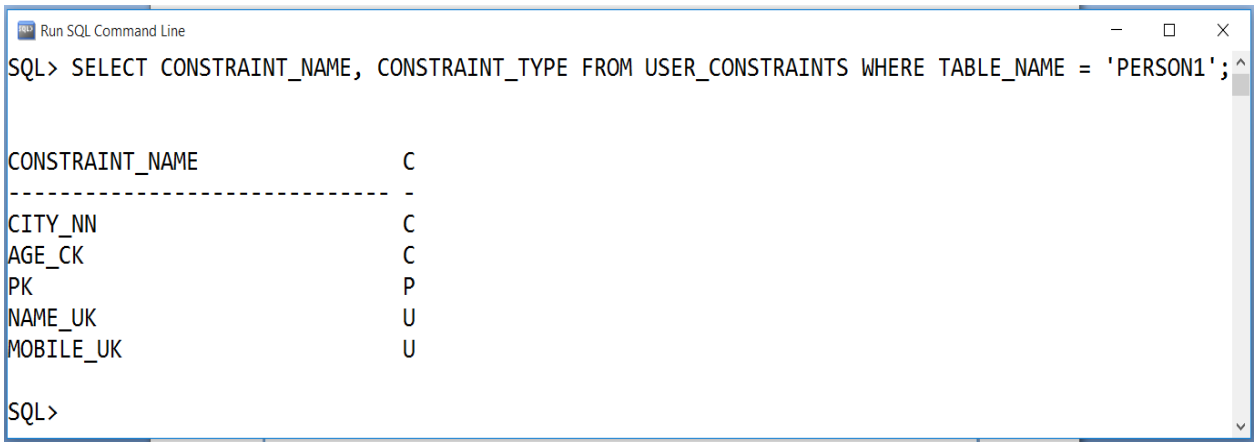
NOTE : DIFFICULT TO IDENTIFY THE UNIQUE CONSTRAINT OF MOBILE_NO

4) CREATE A TABLE CALLED 'PERSON1' WITH THE FOLLOWING STRUCTURE(USING USER DEFINED CONSTRAINTS)

COLUMN NAME	DATATYPE	SIZE	CONSTRAINTS
PERSON_ID	VARCHAR2	10	PRIMARY KEY
PERSON_NAME	VARCHAR2	5	UNIQUE
CITY	VARCHAR2	15	NOT NULL
AGE	NUMBER	2	<=100
MOBILE_NO	NUMBER	10	UNIQUE

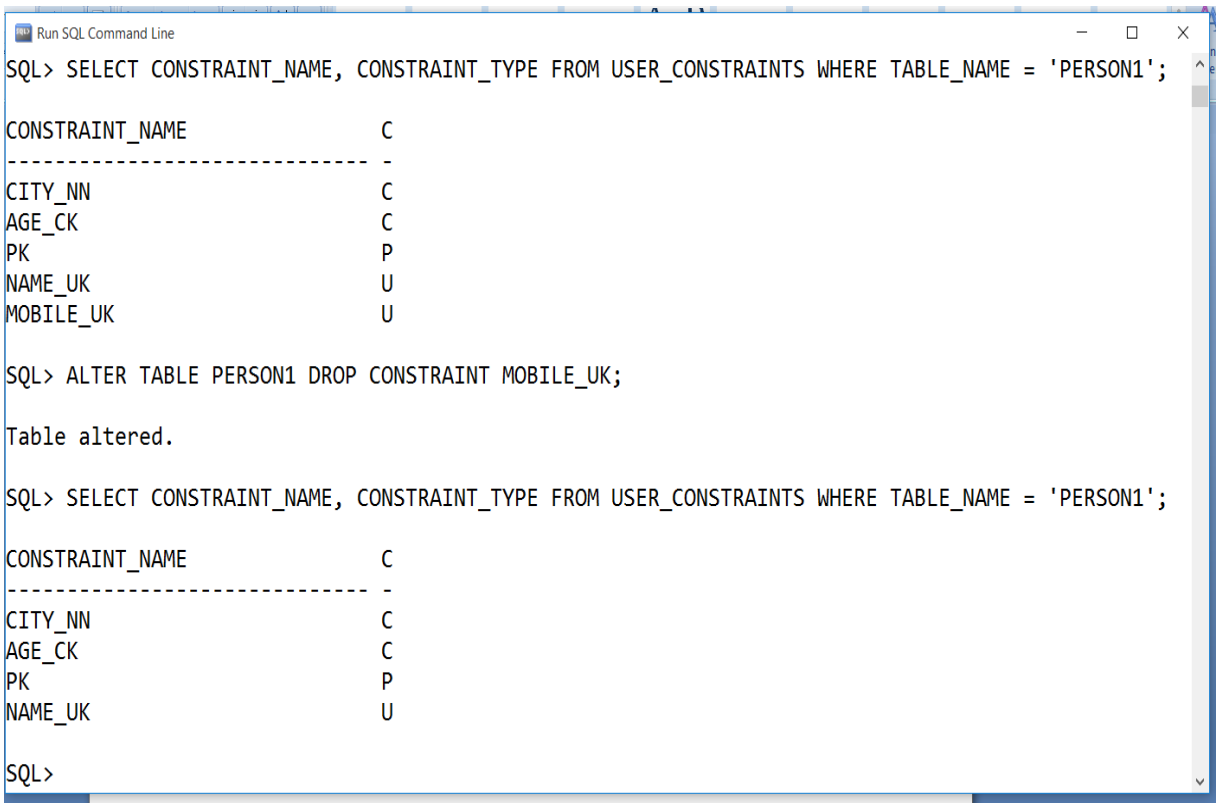


5) DISPLAY THE CONSTRAINTS OF 'PERSON1' TABLE



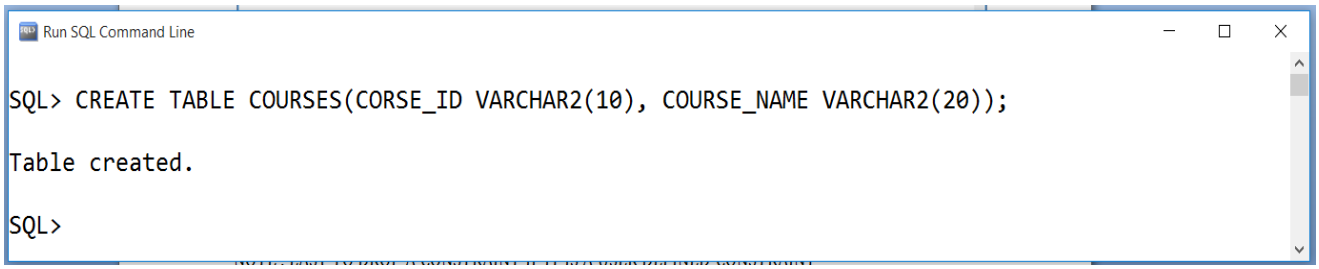
NOTE : EASY TO DROP A CONSTRAINT IF IT IS A USER DEFINED CONSTRAINT

6) DROP THE UNIQUE CONSTRAINT OF MOBILE_NO



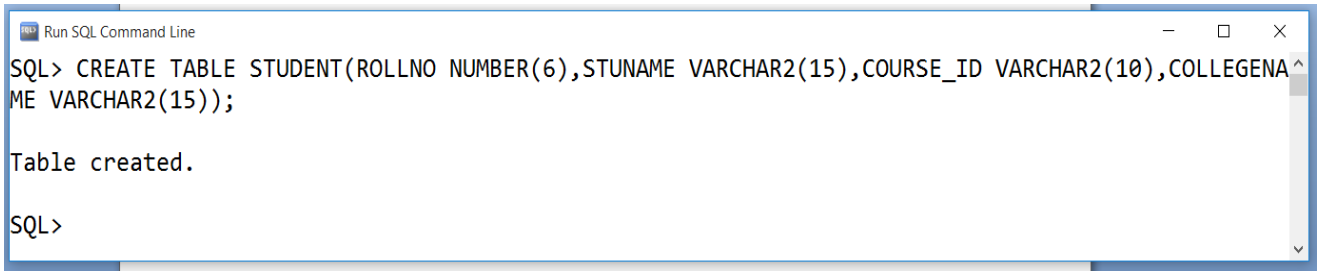
7) CREATE A TABLE CALLED 'COURSES' WITH THE FOLLOWING STRUCTURE

COLUMN NAME	DATATYPE	SIZE
COURSE_ID	VARCHAR2	10
COURSE_NAME	VARCHAR2	20

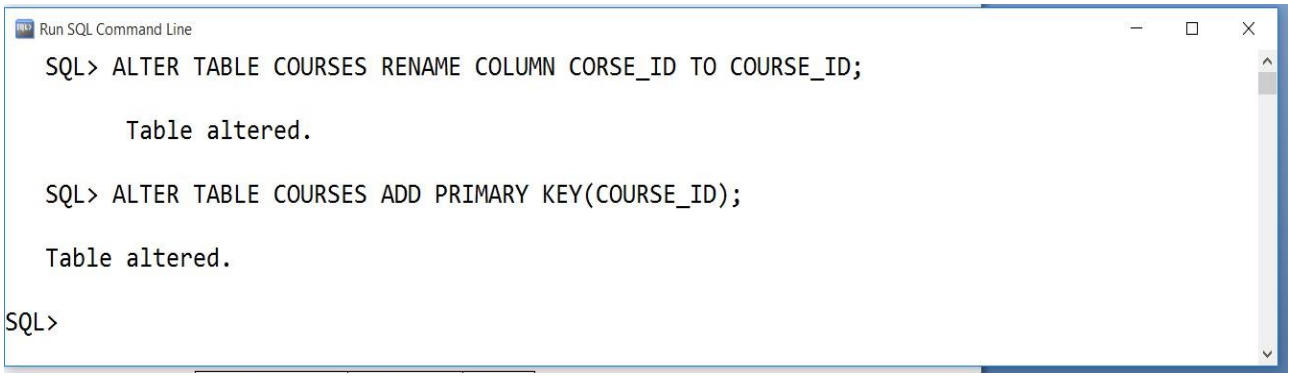


8) CREATE A TABLE CALLED 'STUDENT' WITH THE FOLLOWING STRUCTURE

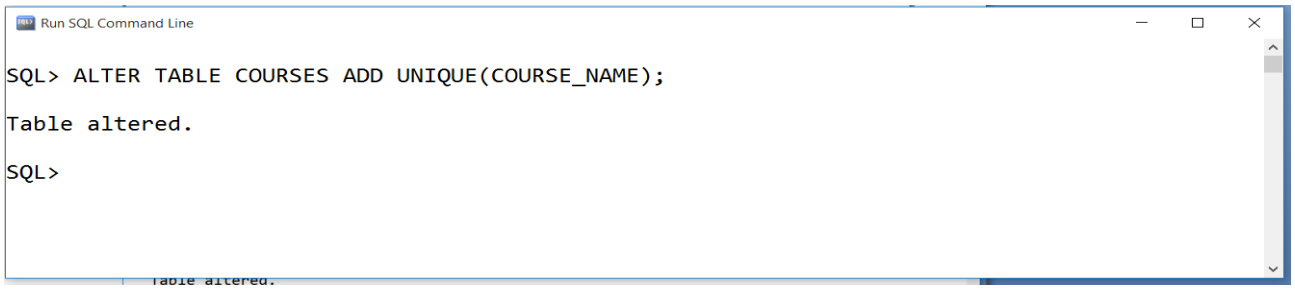
COLUMN NAME	DATATYPE	SIZE
ROLLNO	NUMBER	6
STUNAME	VARCHAR2	15
COURSE_ID	VARCHAR2	10
COLLEGENAME	VARCHAR2	15



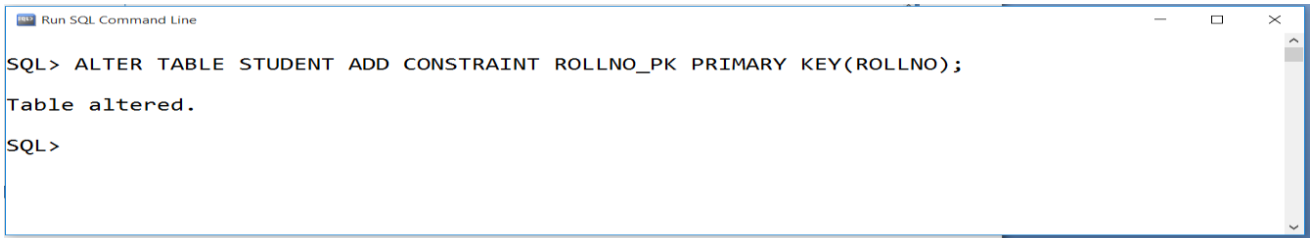
9) ADD PRIMARY KEY TO THE 'COURSE_ID' COLUMN OF 'COURSES' TABLE



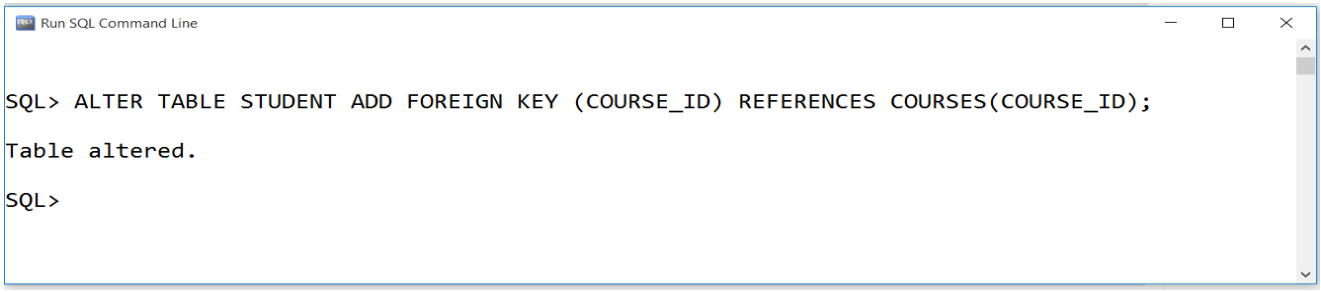
10)ADD UNIQUE CONSTRAINT TO 'COURSE_NAME' COLUMN OF 'COURSES' TABLE USING USER DEFINED CONSTRAINT



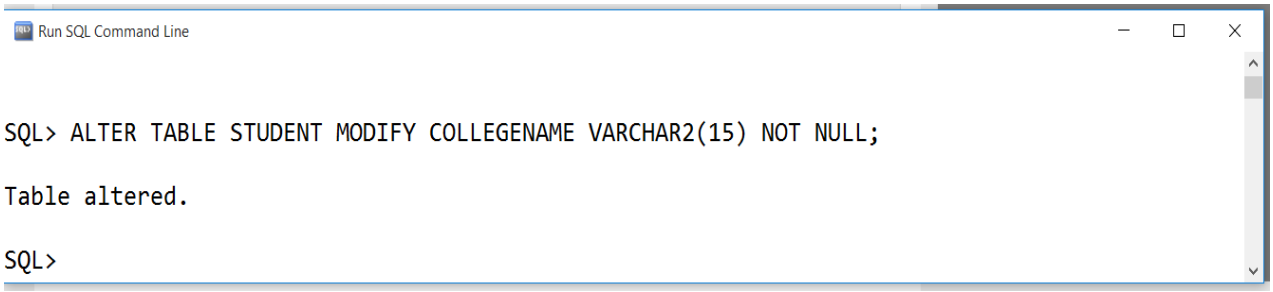
11) ADD PRIMARY KEY TO THE COLUMN 'ROLLNO' OF 'STUDENT' TABLE USING USER DEFINED CONSTRAINT



12)ADD FOREIGN KEY TO 'COURSE_ID' OF 'STUDENT' TABLE



13)ADD NOT NULL CONSTRAINT TO 'COLLEGENAME' COLUMN OF 'STUDENT' TABLE

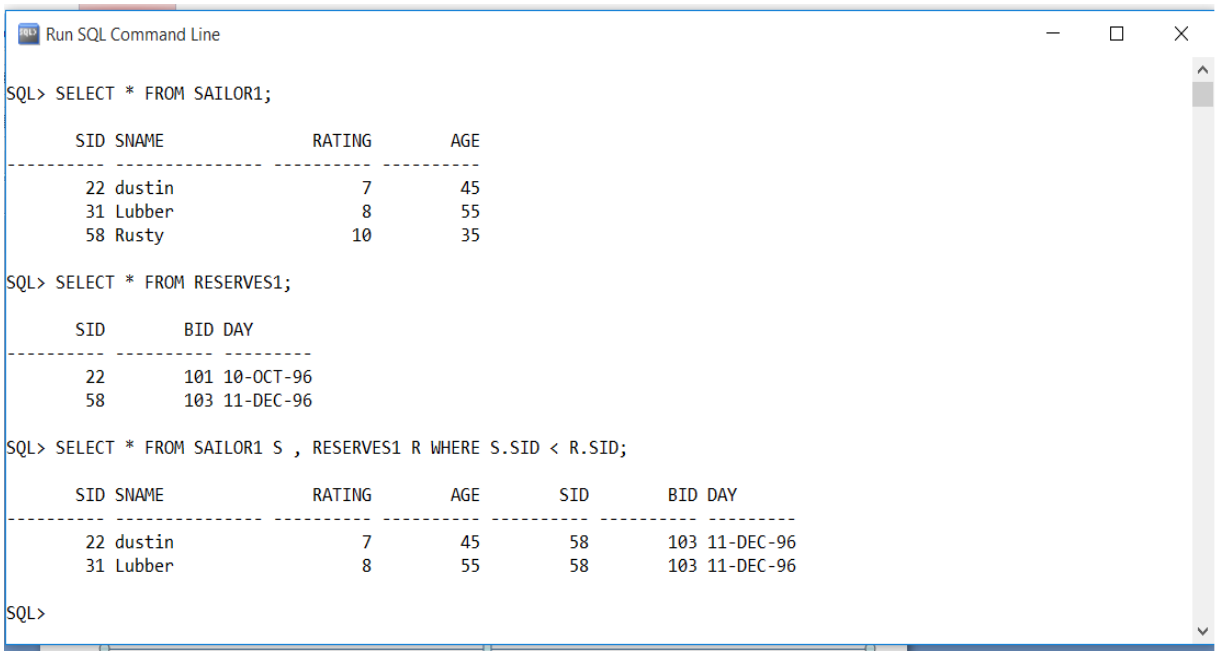


EXERCISE NO.6

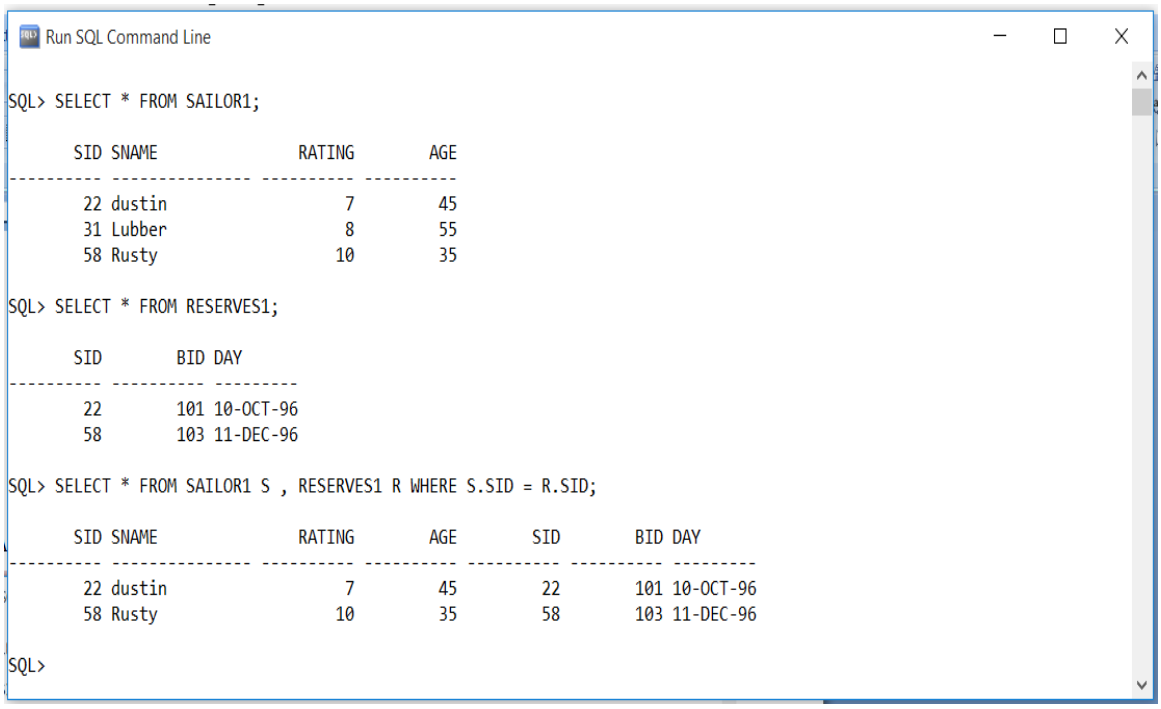
AIM : TO ILLUSTRATE SQL JOINS

1) INNER JOIN

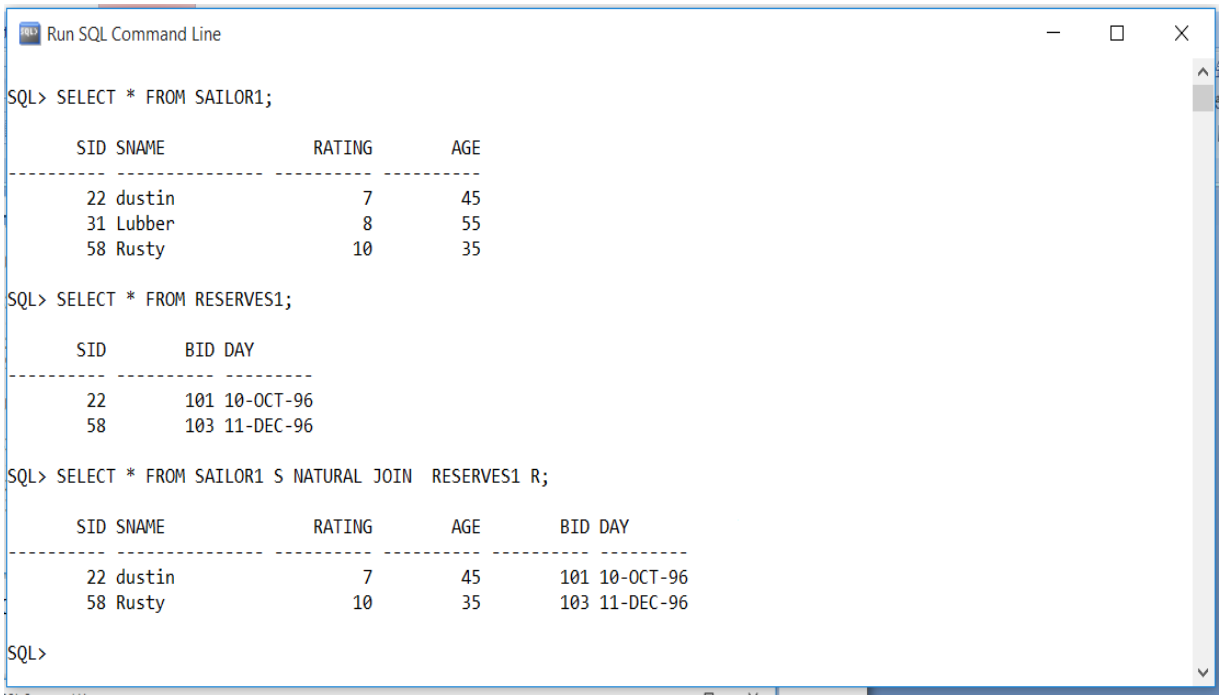
1.1) THETA JOIN



1.2) EQUI JOIN


Run SQL Command Line
SQL> SELECT * FROM SAILOR1;
SID SNAME RATING AGE
22 dustin 7 45
31 Lubber 8 55
58 Rusty 10 35
SQL> SELECT * FROM RESERVES1;
SID BID DAY
22 101 10-OCT-96
58 103 11-DEC-96
SQL> SELECT * FROM SAILOR1 S , RESERVES1 R WHERE S.SID = R.SID;
SID SNAME RATING AGE SID BID DAY
22 dustin 7 45 22 101 10-OCT-96
58 Rusty 10 35 58 103 11-DEC-96
SQL>

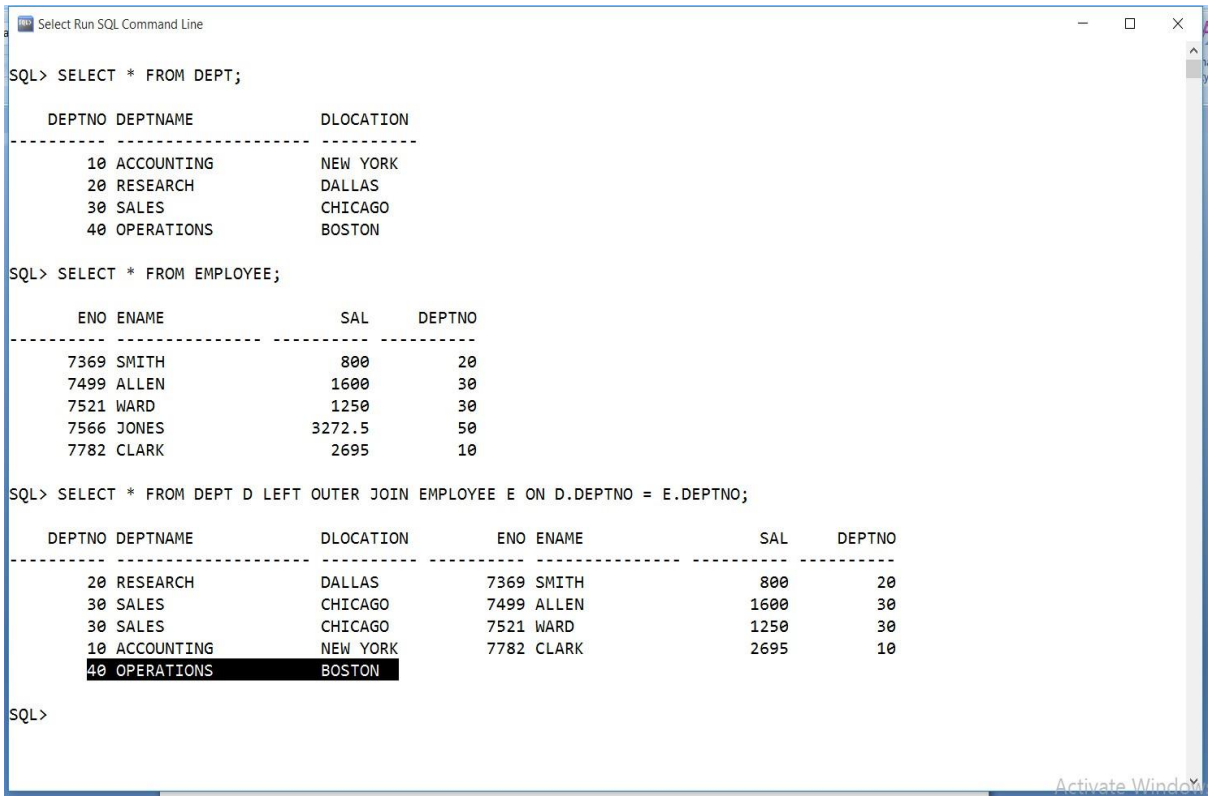
1.3) NATURAL JOIN



```
Run SQL Command Line

SQL> SELECT * FROM SAILOR1;

       SID SNAME               RATING        AGE
---------- --------------- ---------- ----------
        22 dustin                   7         45
        31 Lubber                   8         55
        58 Rusty                   10         35

SQL> SELECT * FROM RESERVES1;

       SID        BID DAY
---------- ---------- ---------
        22        101 10-OCT-96
        58        103 11-DEC-96

SQL> SELECT * FROM SAILOR1 S NATURAL JOIN  RESERVES1 R;

       SID SNAME               RATING        AGE        BID DAY
---------- --------------- ---------- ---------- ---------- ---------
        22 dustin                   7         45        101 10-OCT-96
        58 Rusty                   10         35        103 11-DEC-96

SQL>
```

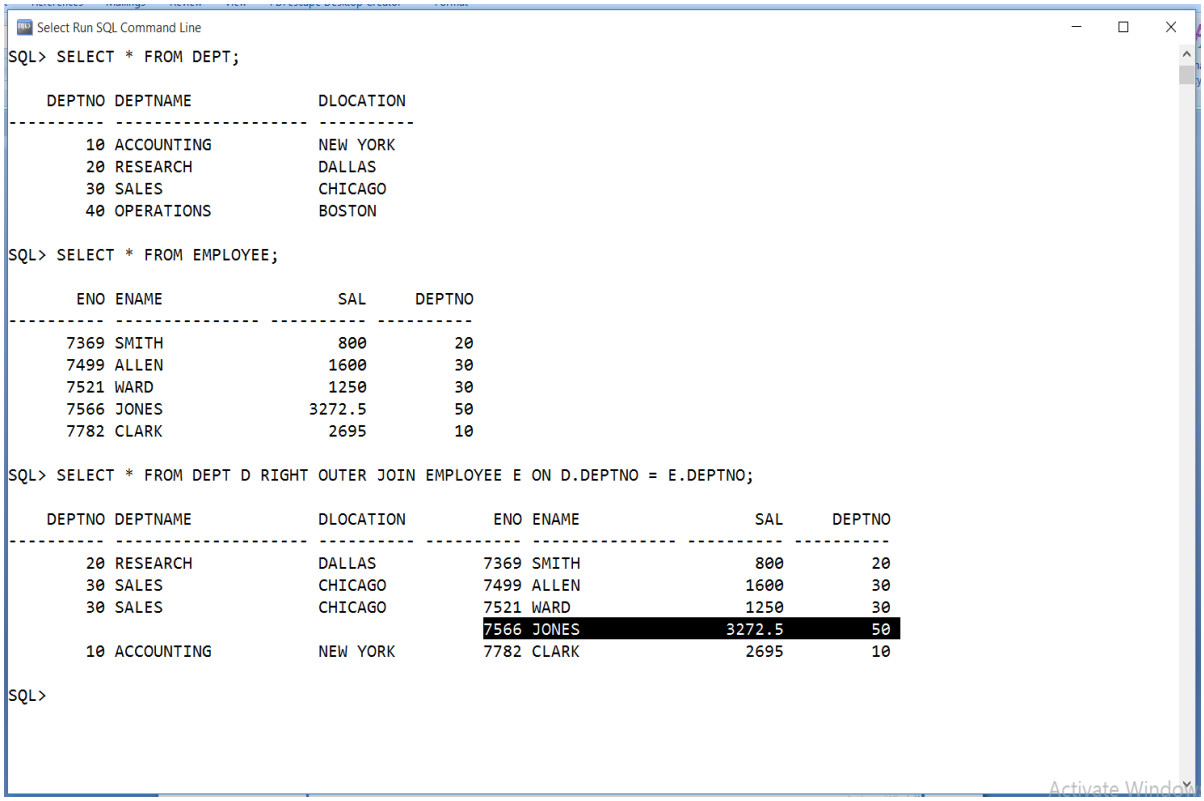
2) OUTER JOIN

2.1) LEFT OUTER JOIN

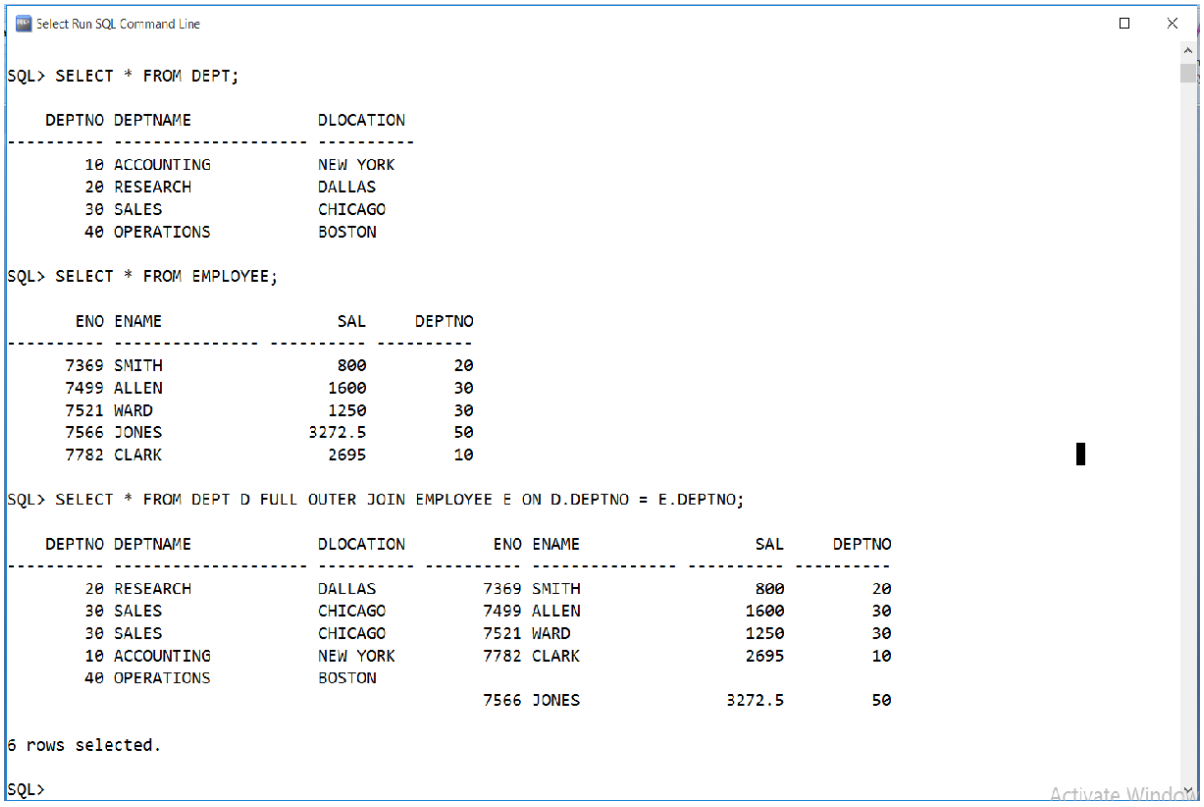


```
Select Run SQL Command Line

SQL> SELECT * FROM DEPT;

    DEPTNO DEPTNAME             DLOCATION
---------- -------------------- ----------
        10 ACCOUNTING           NEW YORK
        20 RESEARCH             DALLAS
        30 SALES                CHICAGO
        40 OPERATIONS           BOSTON

SQL> SELECT * FROM EMPLOYEE;

       ENO ENAME                   SAL     DEPTNO
---------- --------------- ---------- ----------
      7369 SMITH                  800         20
      7499 ALLEN                 1600         30
      7521 WARD                  1250         30
      7566 JONES                3272.5         50
      7782 CLARK                 2695         10

SQL> SELECT * FROM DEPT D LEFT OUTER JOIN EMPLOYEE E ON D.DEPTNO = E.DEPTNO;

    DEPTNO DEPTNAME             DLOCATION         ENO ENAME                   SAL     DEPTNO
---------- -------------------- ---------- ---------- --------------- ---------- ----------
        20 RESEARCH             DALLAS           7369 SMITH                  800         20
        30 SALES                CHICAGO          7499 ALLEN                 1600         30
        30 SALES                CHICAGO          7521 WARD                  1250         30
        10 ACCOUNTING           NEW YORK         7782 CLARK                 2695         10
        40 OPERATIONS           BOSTON

SQL>
```

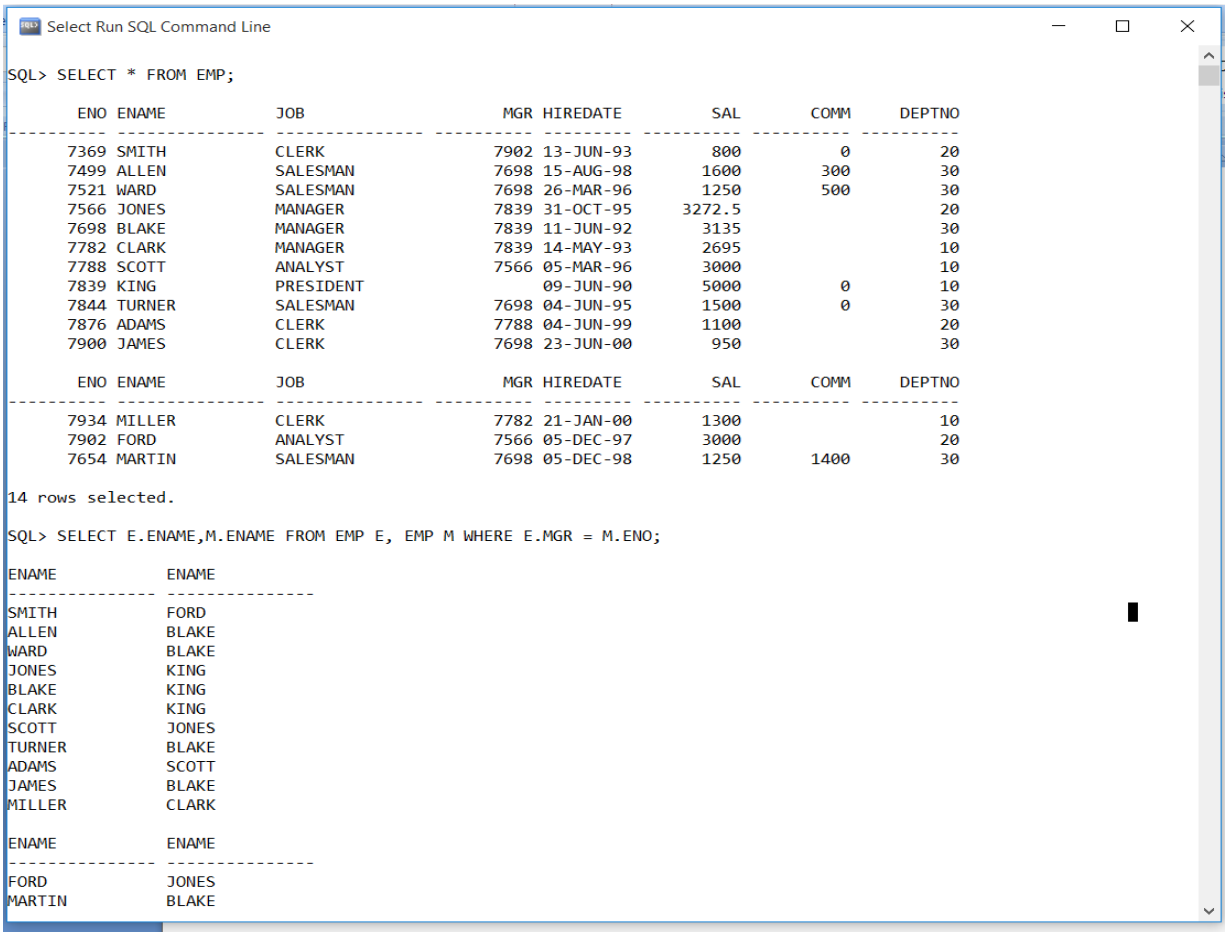
2.2) RIGHT OUTER JOIN



2.3) FULL OUTER JOIN

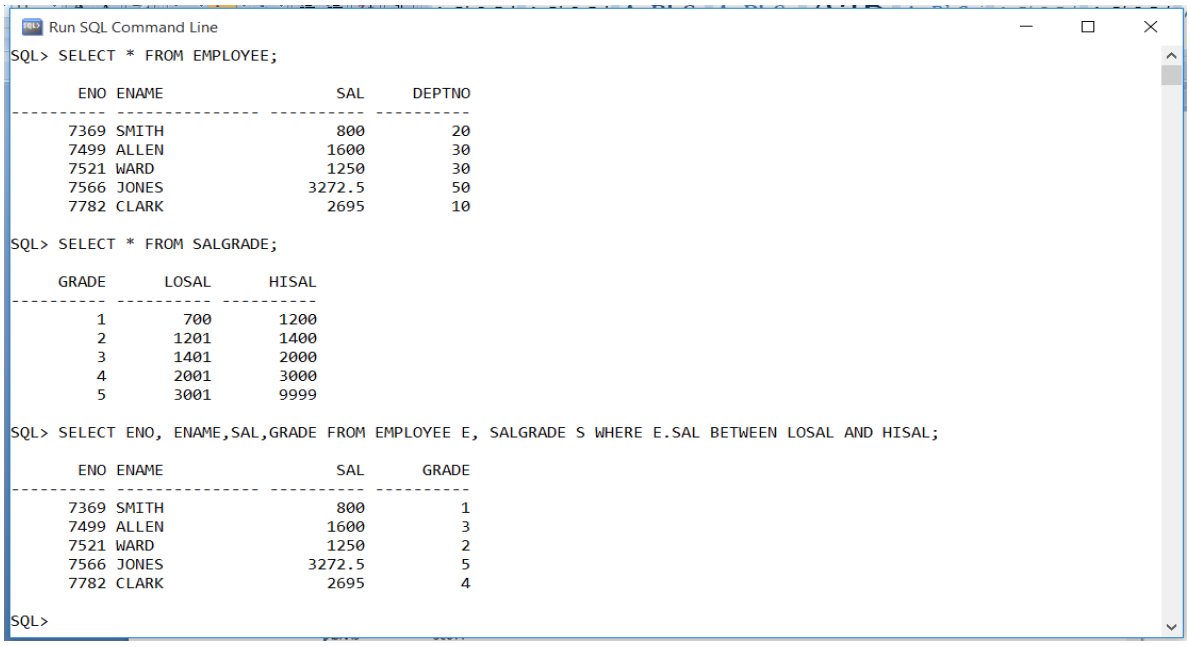


3) SELF JOIN



```
Select Run SQL Command Line

SQL> SELECT * FROM EMP;

       ENO ENAME           JOB                 MGR HIREDATE          SAL       COMM     DEPTNO
---------- --------------- --------------- ---------- --------- ---------- ---------- ----------
      7369 SMITH           CLERK              7902 13-JUN-93         800          0         20
      7499 ALLEN           SALESMAN           7698 15-AUG-98        1600        300         30
      7521 WARD            SALESMAN           7698 26-MAR-96        1250        500         30
      7566 JONES           MANAGER            7839 31-OCT-95      3272.5                    20
      7698 BLAKE           MANAGER            7839 11-JUN-92        3135                    30
      7782 CLARK           MANAGER            7839 14-MAY-93        2695                    10
      7788 SCOTT           ANALYST            7566 05-MAR-96        3000                    10
      7839 KING            PRESIDENT               09-JUN-90        5000          0         10
      7844 TURNER          SALESMAN           7698 04-JUN-95        1500          0         30
      7876 ADAMS           CLERK              7788 04-JUN-99        1100                    20
      7900 JAMES           CLERK              7698 23-JUN-00         950                    30

       ENO ENAME           JOB                 MGR HIREDATE          SAL       COMM     DEPTNO
---------- --------------- --------------- ---------- --------- ---------- ---------- ----------
      7934 MILLER          CLERK              7782 21-JAN-00        1300                    10
      7902 FORD            ANALYST            7566 05-DEC-97        3000                    20
      7654 MARTIN          SALESMAN           7698 05-DEC-98        1250       1400         30

14 rows selected.

SQL> SELECT E.ENAME,M.ENAME FROM EMP E, EMP M WHERE E.MGR = M.ENO;

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

ENAME           ENAME
--------------- ---------------
FORD            JONES
MARTIN          BLAKE
```

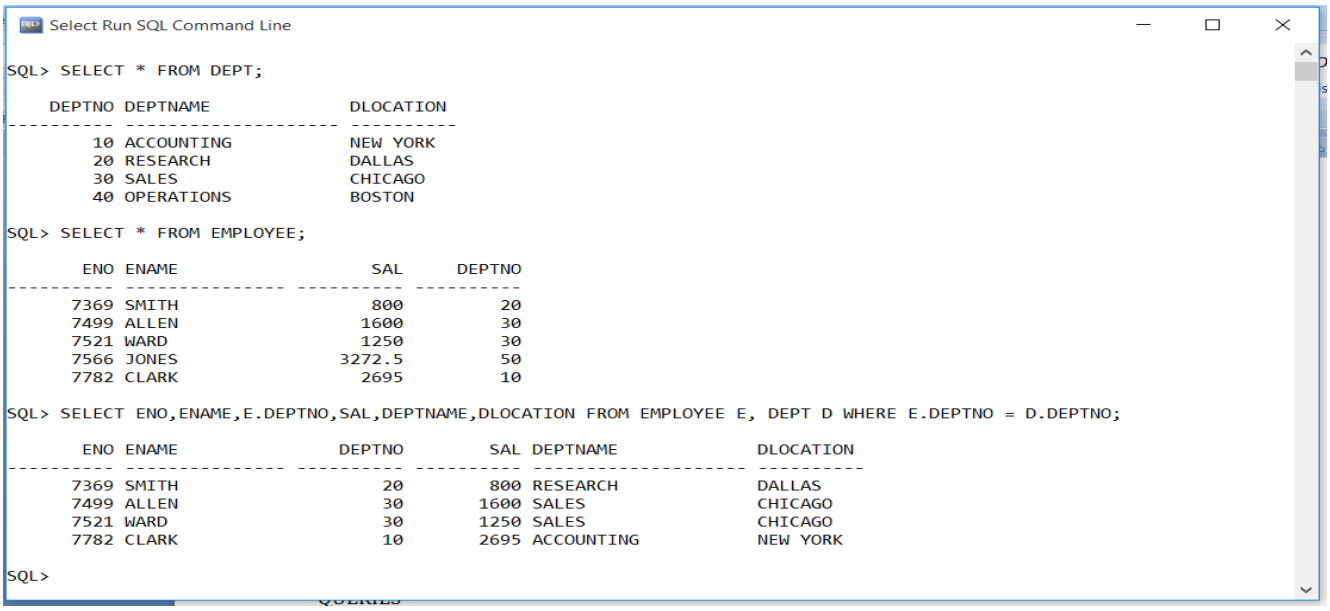
4) NON EQUI JOIN



```
Run SQL Command Line
SQL> SELECT * FROM EMPLOYEE;

       ENO ENAME                SAL     DEPTNO
---------- --------------- ---------- ----------
      7369 SMITH                 800         20
      7499 ALLEN                1600         30
      7521 WARD                 1250         30
      7566 JONES              3272.5         50
      7782 CLARK                2695         10

SQL> SELECT * FROM SALGRADE;

     GRADE      LOSAL      HISAL
---------- ---------- ----------
         1        700       1200
         2       1201       1400
         3       1401       2000
         4       2001       3000
         5       3001       9999

SQL> SELECT ENO, ENAME,SAL,GRADE FROM EMPLOYEE E, SALGRADE S WHERE E.SAL BETWEEN LOSAL AND HISAL;

       ENO ENAME                SAL      GRADE
---------- --------------- ---------- ----------
      7369 SMITH                 800          1
      7499 ALLEN                1600          3
      7521 WARD                 1250          2
      7566 JONES              3272.5          5
      7782 CLARK                2695          4

SQL>
```

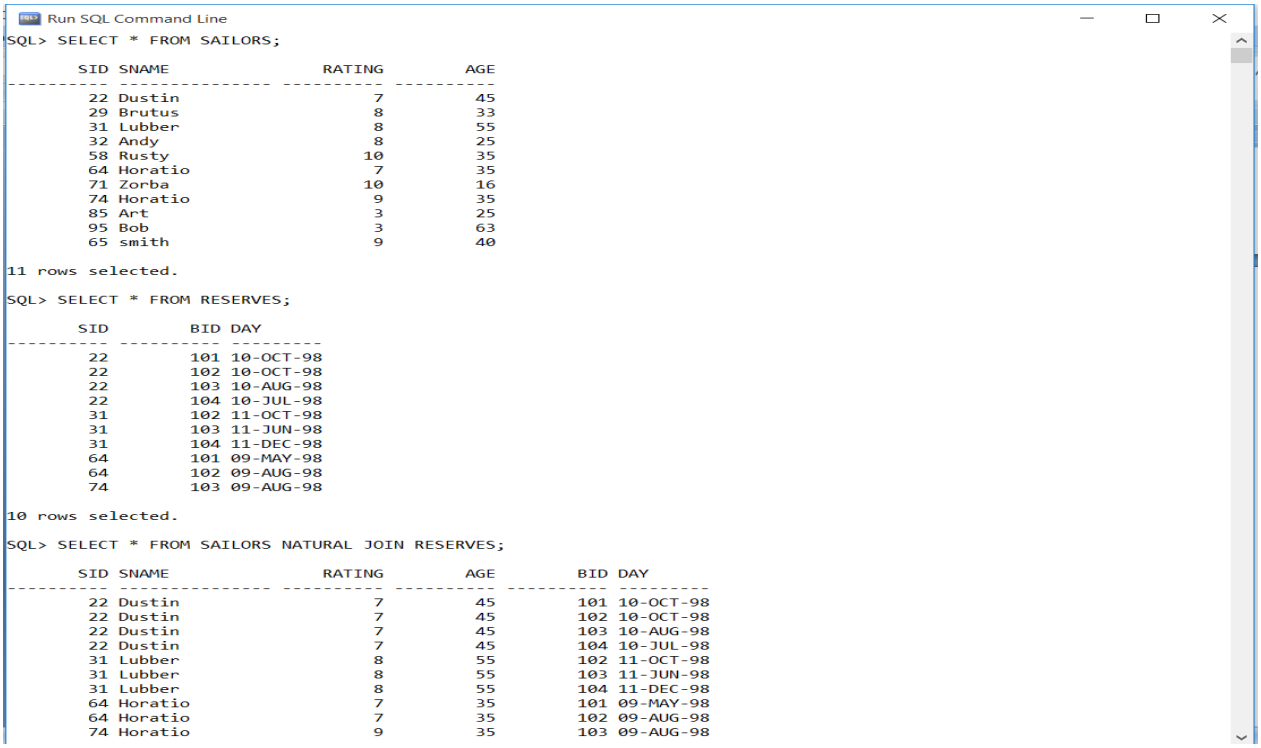
QUERIES ON JOINS

1) GET EMPLOYEES WITH THEIR DEPARTMENT NAMES



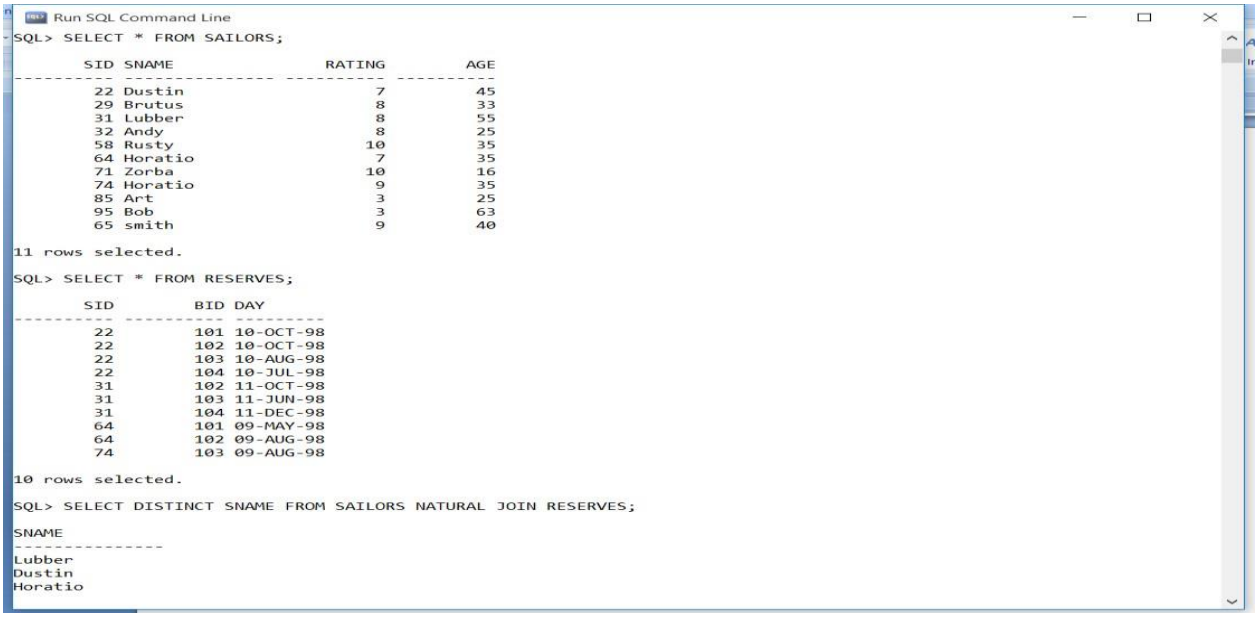
```
Select Run SQL Command Line

SQL> SELECT * FROM DEPT;

    DEPTNO DEPTNAME             DLOCATION
---------- -------------------- ----------
        10 ACCOUNTING           NEW YORK
        20 RESEARCH             DALLAS
        30 SALES                CHICAGO
        40 OPERATIONS           BOSTON

SQL> SELECT * FROM EMPLOYEE;

       ENO ENAME                    SAL     DEPTNO
---------- --------------- ---------- ----------
      7369 SMITH                   800         20
      7499 ALLEN                  1600         30
      7521 WARD                   1250         30
      7566 JONES                 3272.5         50
      7782 CLARK                  2695         10

SQL> SELECT ENO,ENAME,E.DEPTNO,SAL,DEPTNAME,DLOCATION FROM EMPLOYEE E, DEPT D WHERE E.DEPTNO = D.DEPTNO;

       ENO ENAME               DEPTNO        SAL DEPTNAME            DLOCATION
---------- --------------- ---------- ---------- -------------------- ----------
      7369 SMITH                   20        800 RESEARCH             DALLAS
      7499 ALLEN                   30       1600 SALES                CHICAGO
      7521 WARD                    30       1250 SALES                CHICAGO
      7782 CLARK                   10       2695 ACCOUNTING           NEW YORK

SQL>
```

2) GET SAILORS WHO HAVE RESERVED BOATS

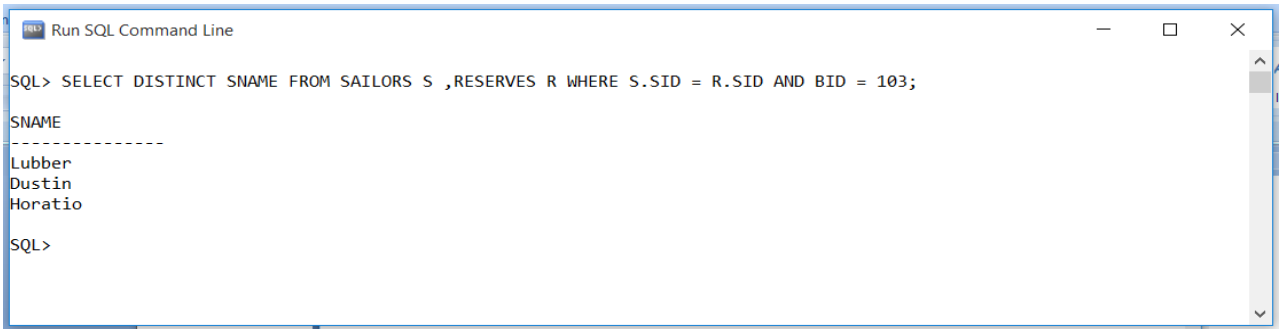


```
Run SQL Command Line
SQL> SELECT * FROM SAILORS;

       SID SNAME                RATING        AGE
---------- --------------- ---------- ----------
        22 Dustin                   7         45
        29 Brutus                   8         33
        31 Lubber                   8         55
        32 Andy                     8         25
        58 Rusty                   10         35
        64 Horatio                  7         35
        71 Zorba                   10         16
        74 Horatio                  9         35
        85 Art                      3         25
        95 Bob                      3         63
        65 smith                    9         40

11 rows selected.

SQL> SELECT * FROM RESERVES;

       SID        BID DAY
---------- ---------- ---------
        22        101 10-OCT-98
        22        102 10-OCT-98
        22        103 10-AUG-98
        22        104 10-JUL-98
        31        102 11-OCT-98
        31        103 11-JUN-98
        31        104 11-DEC-98
        64        101 09-MAY-98
        64        102 09-AUG-98
        74        103 09-AUG-98

10 rows selected.

SQL> SELECT * FROM SAILORS NATURAL JOIN RESERVES;

       SID SNAME                RATING        AGE        BID DAY
---------- --------------- ---------- ---------- ---------- ---------
        22 Dustin                   7         45        101 10-OCT-98
        22 Dustin                   7         45        102 10-OCT-98
        22 Dustin                   7         45        103 10-AUG-98
        22 Dustin                   7         45        104 10-JUL-98
        31 Lubber                   8         55        102 11-OCT-98
        31 Lubber                   8         55        103 11-JUN-98
        31 Lubber                   8         55        104 11-DEC-98
        64 Horatio                  7         35        101 09-MAY-98
        64 Horatio                  7         35        102 09-AUG-98
        74 Horatio                  9         35        103 09-AUG-98
```

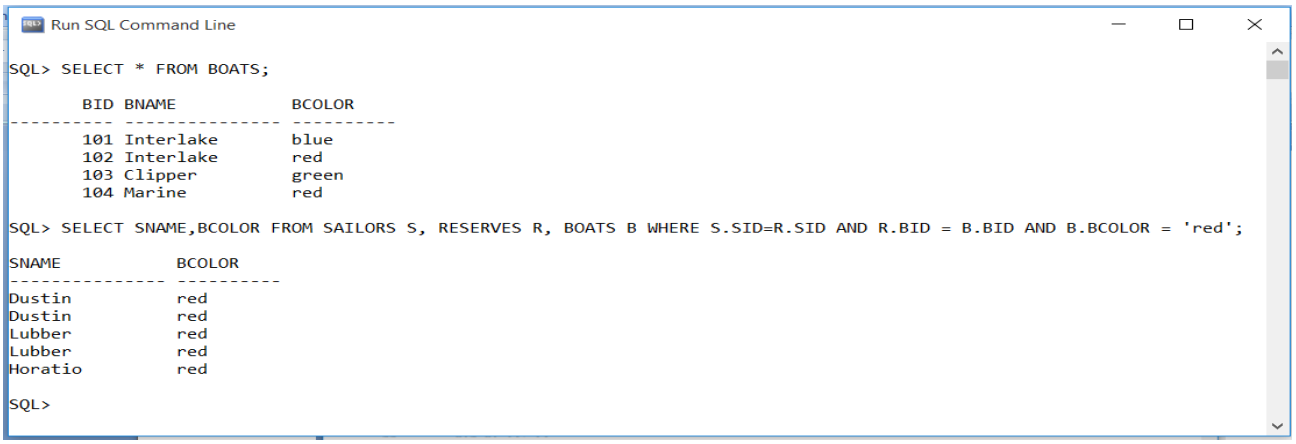
3) DISPLAY SAILOR NAMES WHO HAVE RESERVED BOATS



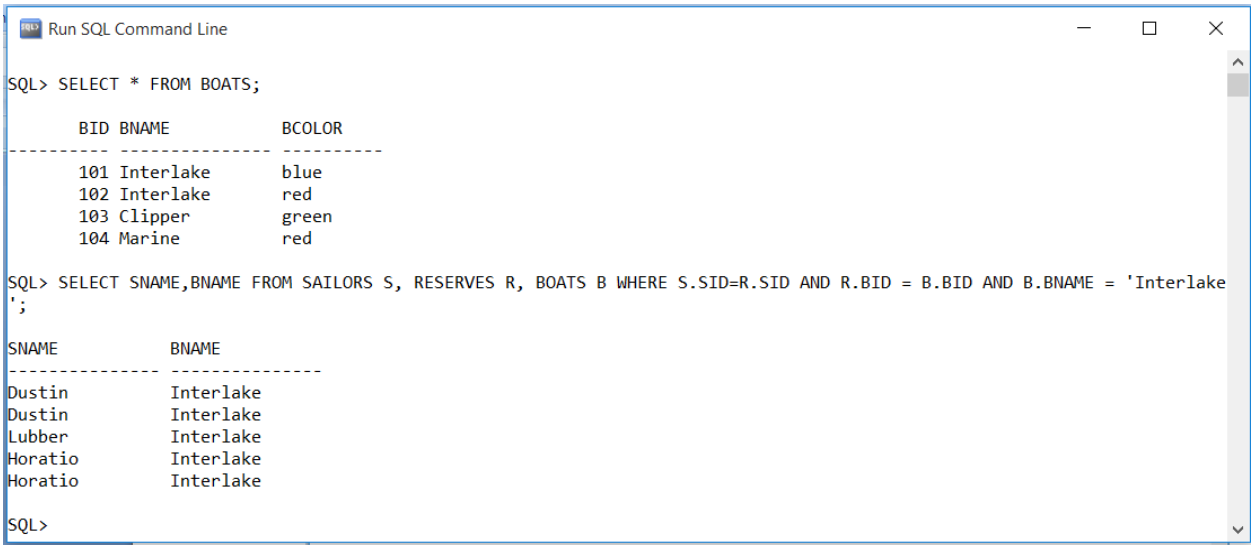
4) FIND SAILORS WHO HAVE RESERVED 102 BOAT



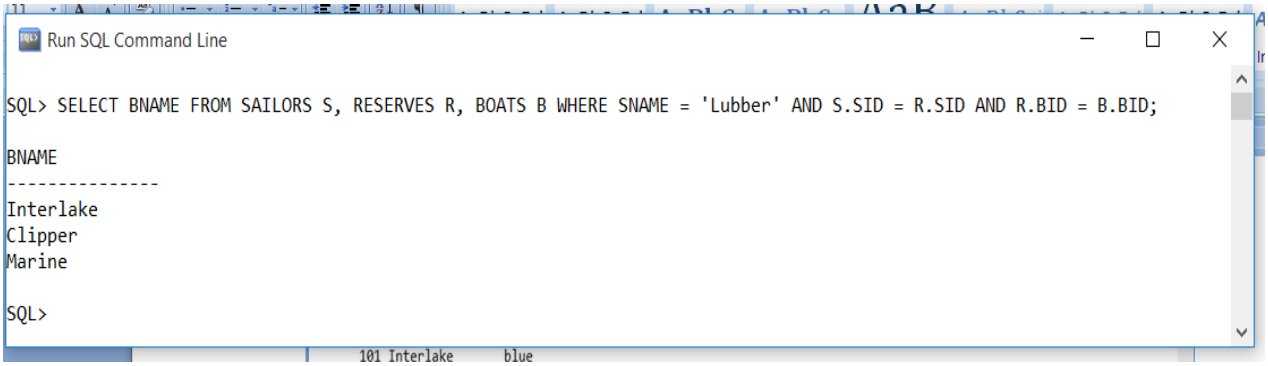
5) DISPLAY SAILOR NAMES WHO HAVE RESERVED RED BOATS



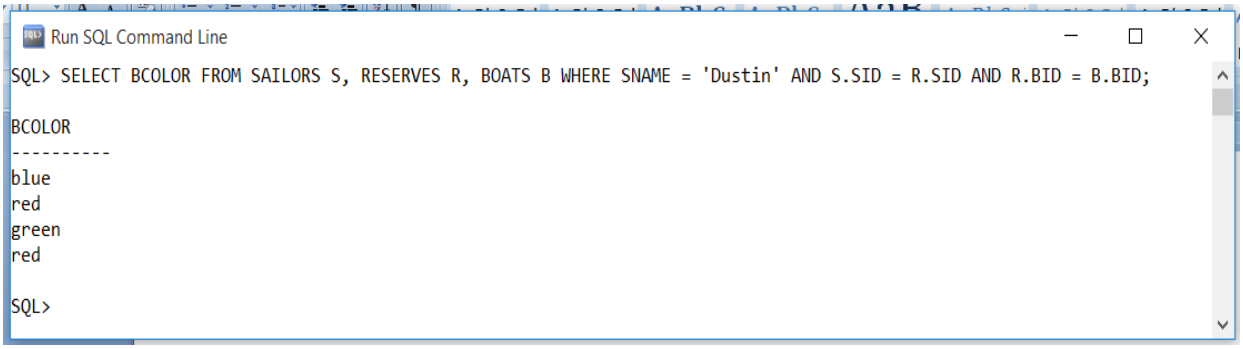
6) FIND SAILORS WHO HAVE RESERVED 'INTERLAKE' BOATS



7) FIND THE BOATS RESERVED BY 'LUBBER'



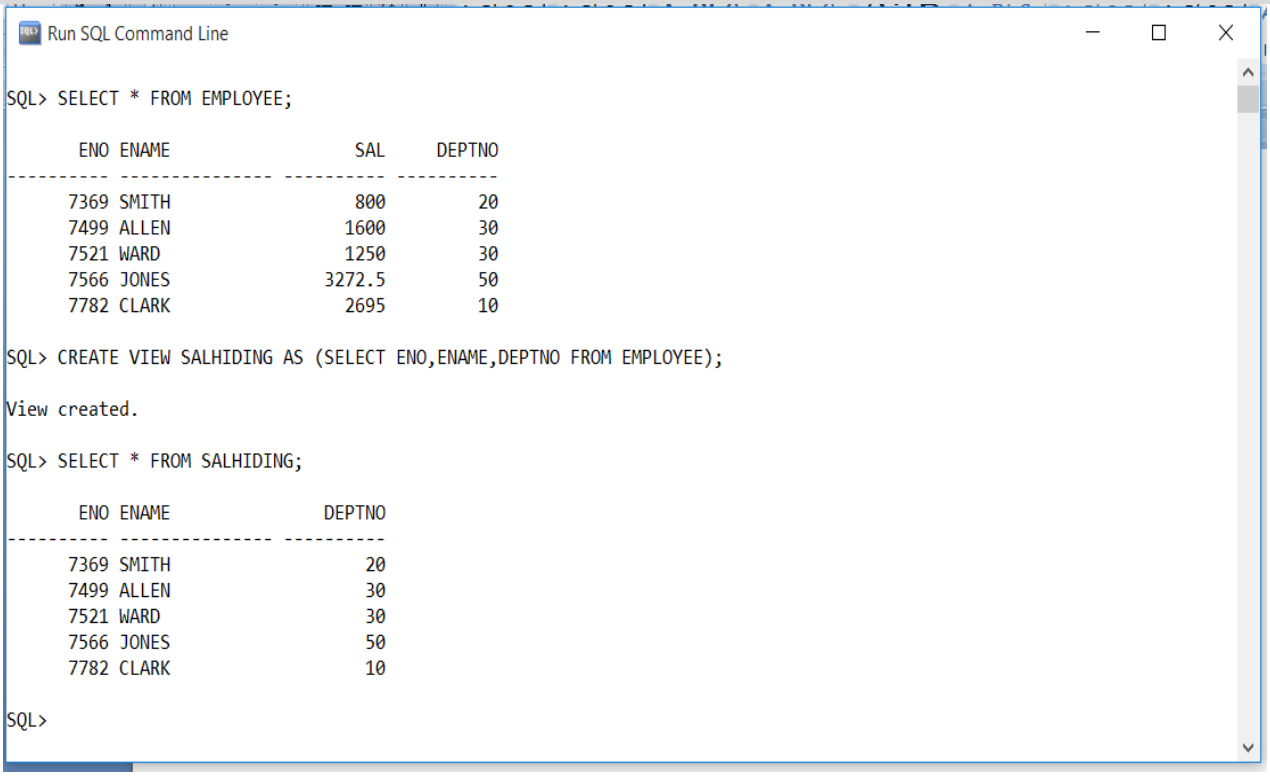
8) FIND THE COLOR OF BOATS RESERVED BY 'DUSTIN'

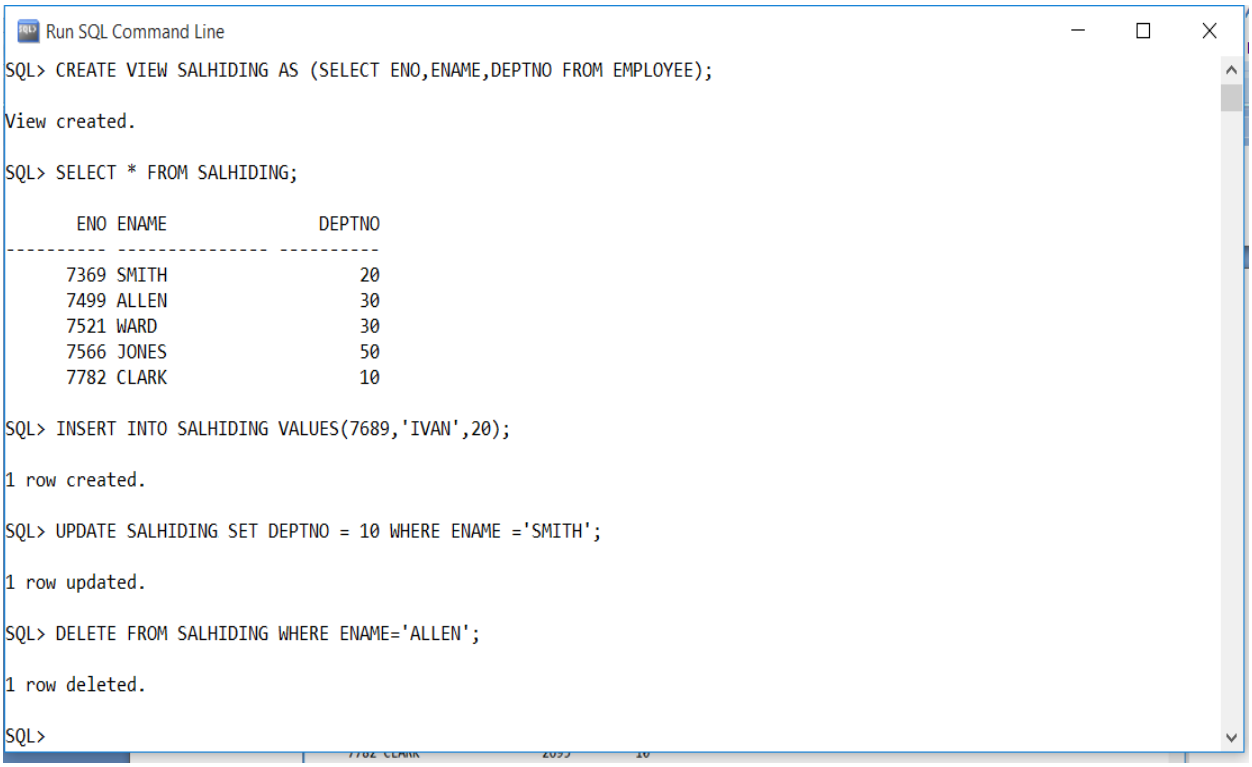


EXERCISE NO 8

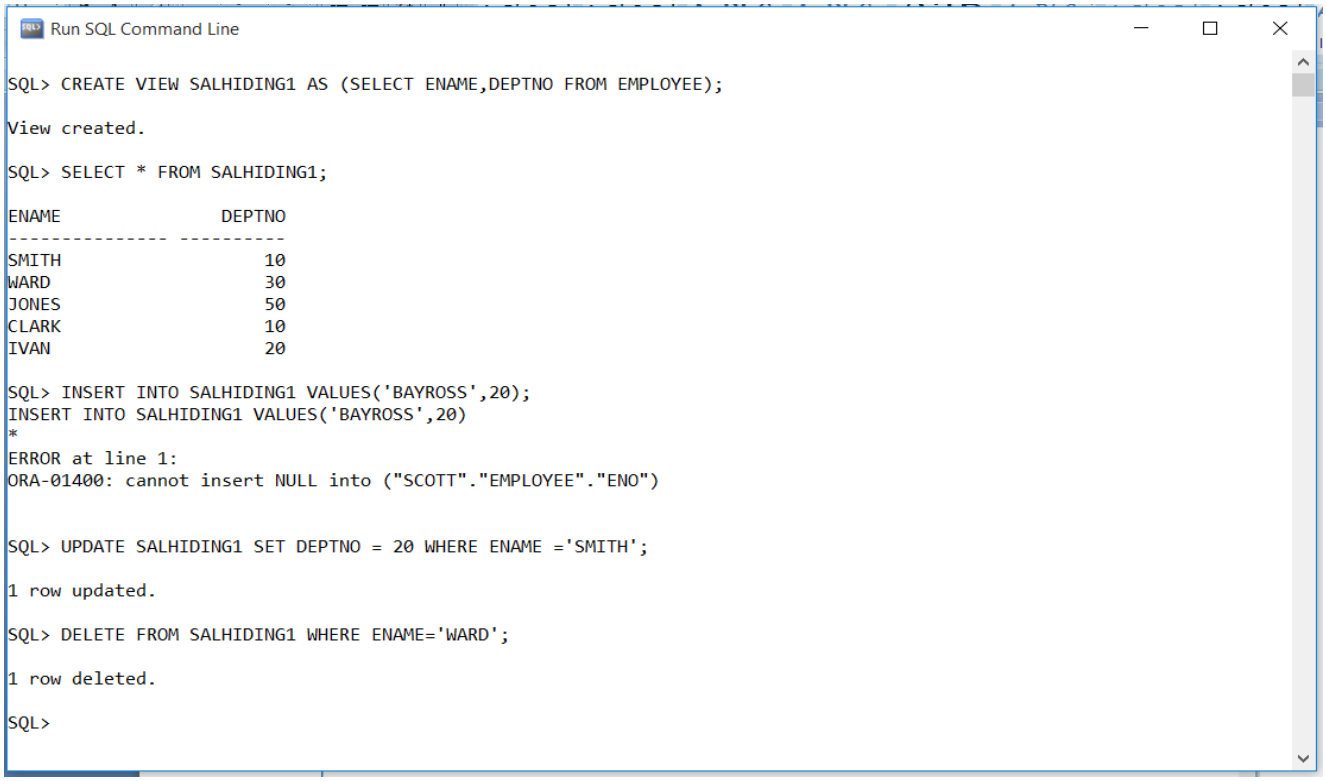
AIM : TO ILLUSTRATE SQL VIEWS

1) CREATING A VIEW WITHOUT EXCLUDING A PRIMARY KEY ATTRIBUTE AND PERFORMING OPERATIONS ON SUCH VIEW



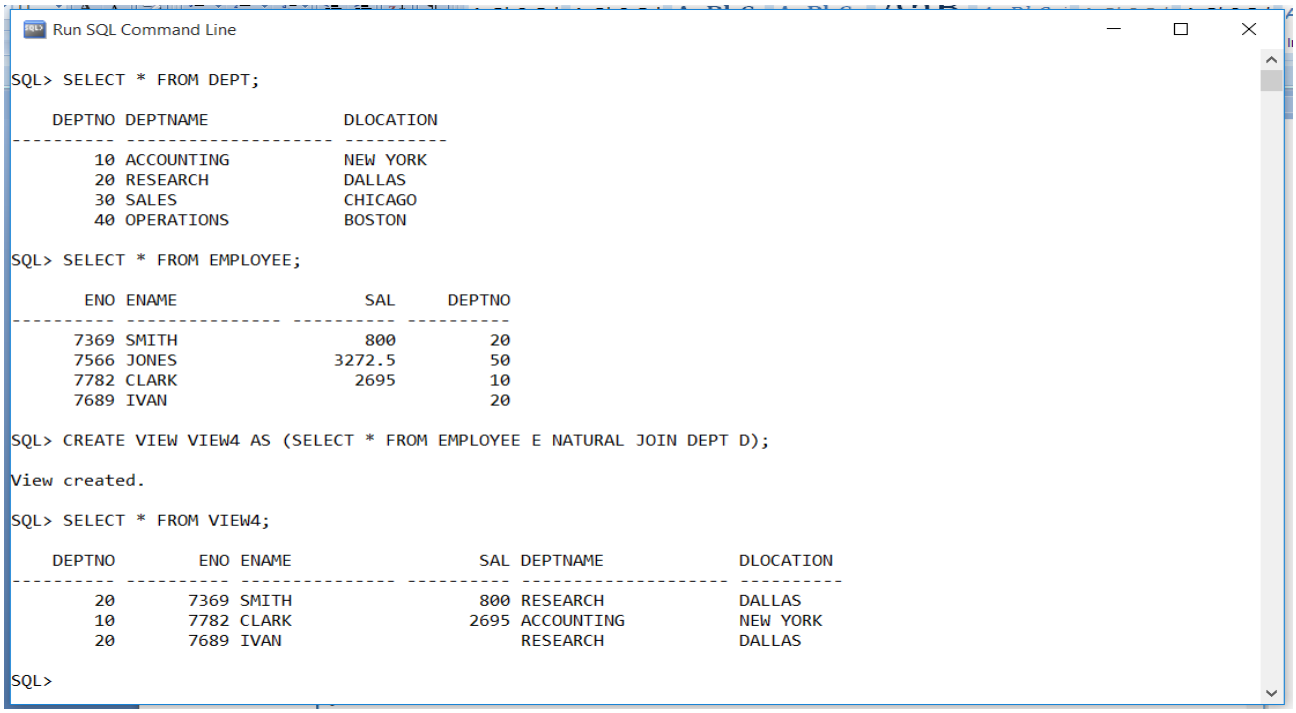


2) CREATING A VIEW BY EXCLUDING THE PRIMARY KEY ATTRIBUTE(ENO) AND PERFORMING OPERATIONS ON SUCH VIEW



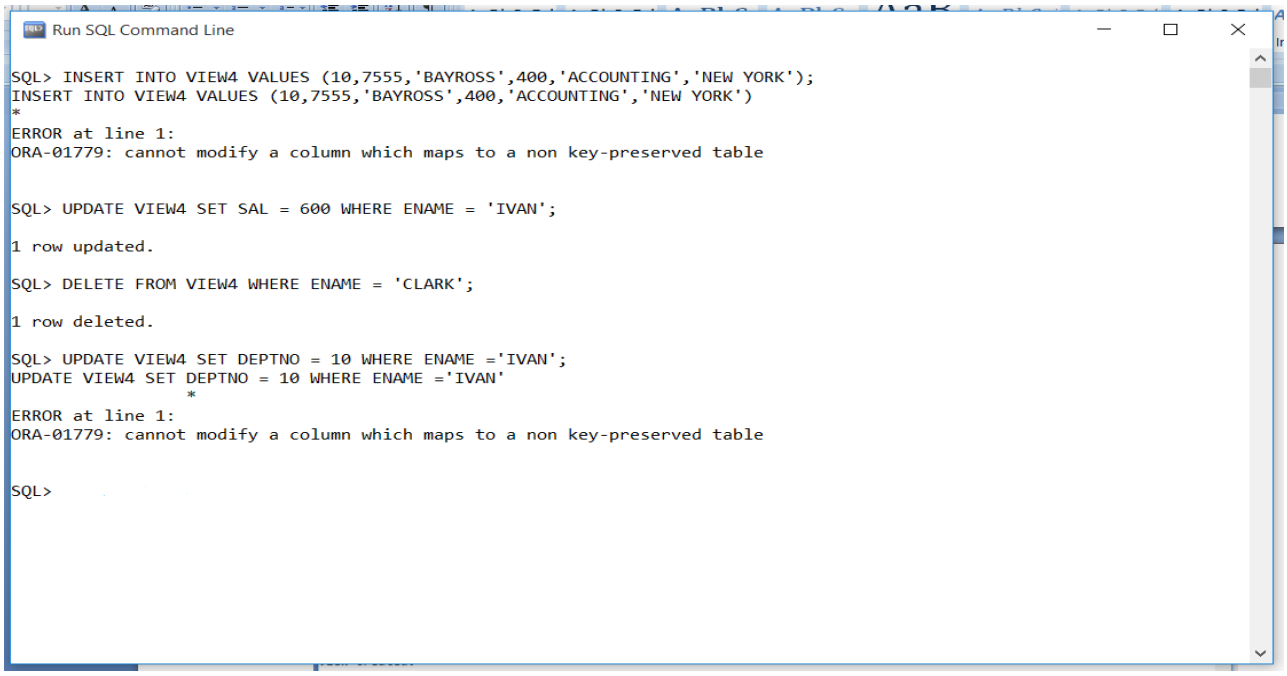
```
Run SQL Command Line

SQL> CREATE VIEW SALHIDING1 AS (SELECT ENAME,DEPTNO FROM EMPLOYEE);

View created.

SQL> SELECT * FROM SALHIDING1;

ENAME               DEPTNO
--------------- ----------
SMITH                   10
WARD                    30
JONES                   50
CLARK                   10
IVAN                    20

SQL> INSERT INTO SALHIDING1 VALUES('BAYROSS',20);
INSERT INTO SALHIDING1 VALUES('BAYROSS',20)
*
ERROR at line 1:
ORA-01400: cannot insert NULL into ("SCOTT"."EMPLOYEE"."ENO")


SQL> UPDATE SALHIDING1 SET DEPTNO = 20 WHERE ENAME ='SMITH';

1 row updated.

SQL> DELETE FROM SALHIDING1 WHERE ENAME='WARD';

1 row deleted.

SQL>
```

3) CREATE A VIEW FROM MULTIPLE TABLES WHICH HAVE A REFERENCING CLASS.

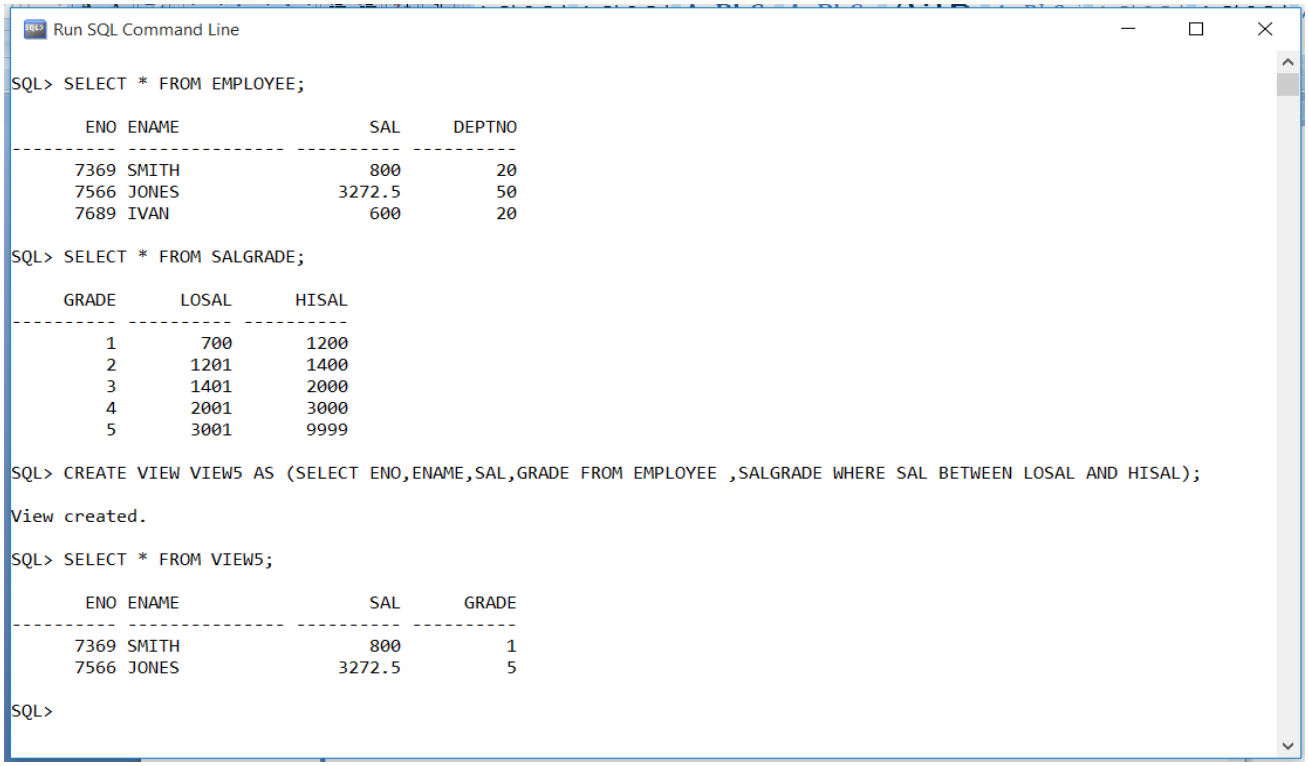


```
Run SQL Command Line

SQL> SELECT * FROM DEPT;

    DEPTNO DEPTNAME             DLOCATION
---------- -------------------- ----------
        10 ACCOUNTING           NEW YORK
        20 RESEARCH             DALLAS
        30 SALES                CHICAGO
        40 OPERATIONS           BOSTON

SQL> SELECT * FROM EMPLOYEE;

       ENO ENAME                   SAL     DEPTNO
---------- --------------- ---------- ----------
      7369 SMITH                  800         20
      7566 JONES                3272.5         50
      7782 CLARK                  2695         10
      7689 IVAN                                20

SQL> CREATE VIEW VIEW4 AS (SELECT * FROM EMPLOYEE E NATURAL JOIN DEPT D);

View created.

SQL> SELECT * FROM VIEW4;

    DEPTNO        ENO ENAME                   SAL DEPTNAME             DLOCATION
---------- ---------- --------------- ---------- -------------------- ----------
        20       7369 SMITH                  800 RESEARCH             DALLAS
        10       7782 CLARK                 2695 ACCOUNTING           NEW YORK
        20       7689 IVAN                       RESEARCH             DALLAS

SQL>
```

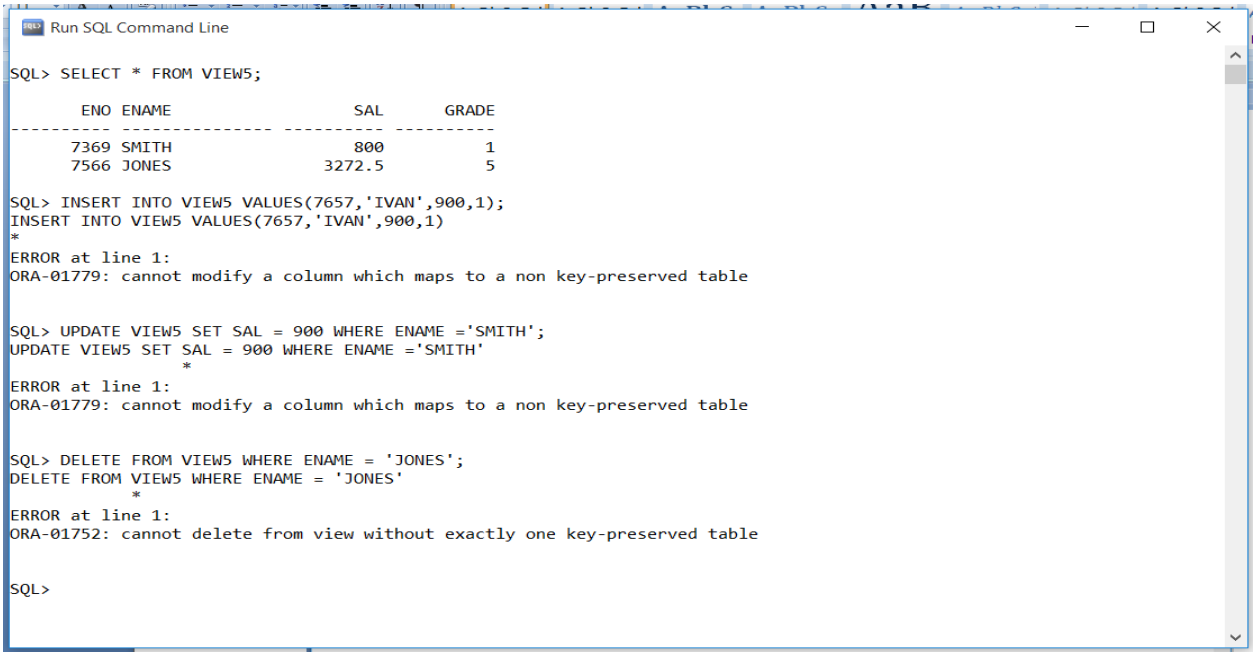
PERFORM OPERATIONS



4) CREATE A VIEW FROM MULTIPLE TABLES WHICH DOES NOT HAVE A REFERENCING CLASS.

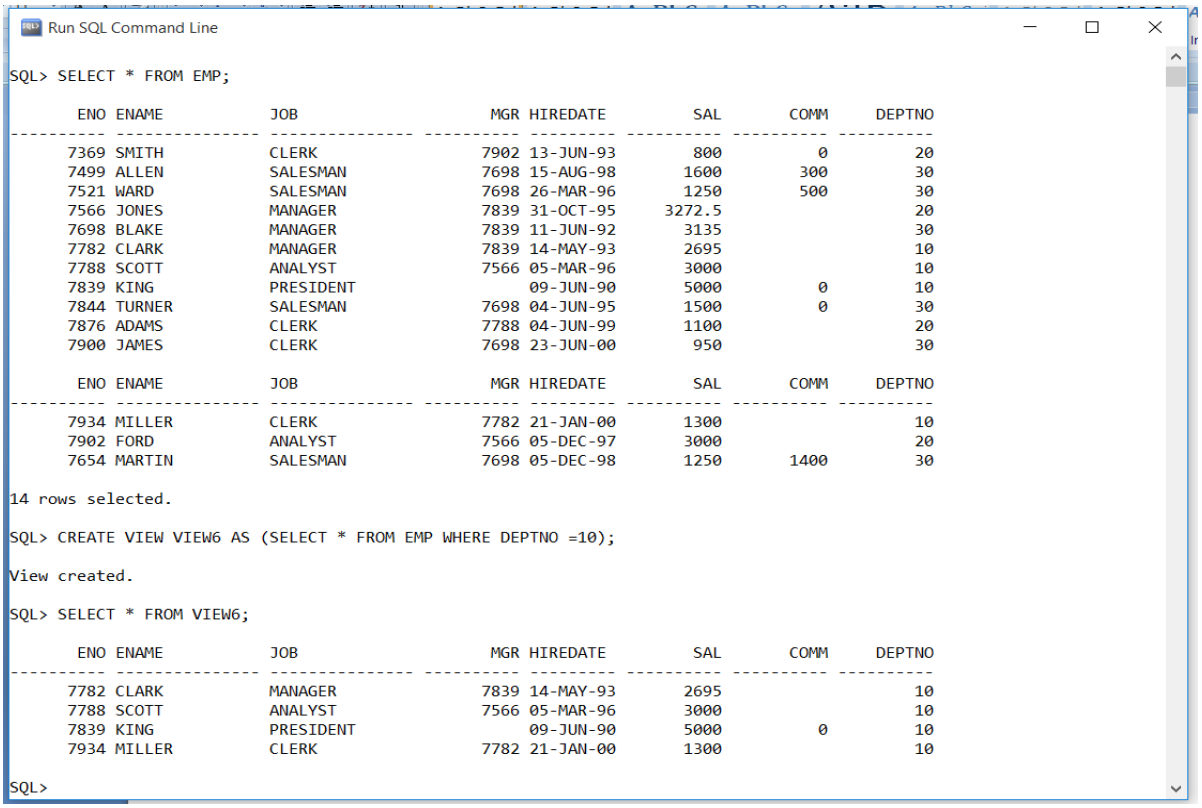


PERFORMING OPERATIONS



```
Run SQL Command Line

SQL> SELECT * FROM VIEW5;

       ENO ENAME                SAL      GRADE
---------- ---------- ---------- ----------
      7369 SMITH                800          1
      7566 JONES              3272.5          5

SQL> INSERT INTO VIEW5 VALUES(7657,'IVAN',900,1);
INSERT INTO VIEW5 VALUES(7657,'IVAN',900,1)
*
ERROR at line 1:
ORA-01779: cannot modify a column which maps to a non key-preserved table


SQL> UPDATE VIEW5 SET SAL = 900 WHERE ENAME ='SMITH';
UPDATE VIEW5 SET SAL = 900 WHERE ENAME ='SMITH'
               *
ERROR at line 1:
ORA-01779: cannot modify a column which maps to a non key-preserved table


SQL> DELETE FROM VIEW5 WHERE ENAME = 'JONES';
DELETE FROM VIEW5 WHERE ENAME = 'JONES'
            *
ERROR at line 1:
ORA-01752: cannot delete from view without exactly one key-preserved table


SQL>
```

5) CREATE A ROW SECURITY VIEW



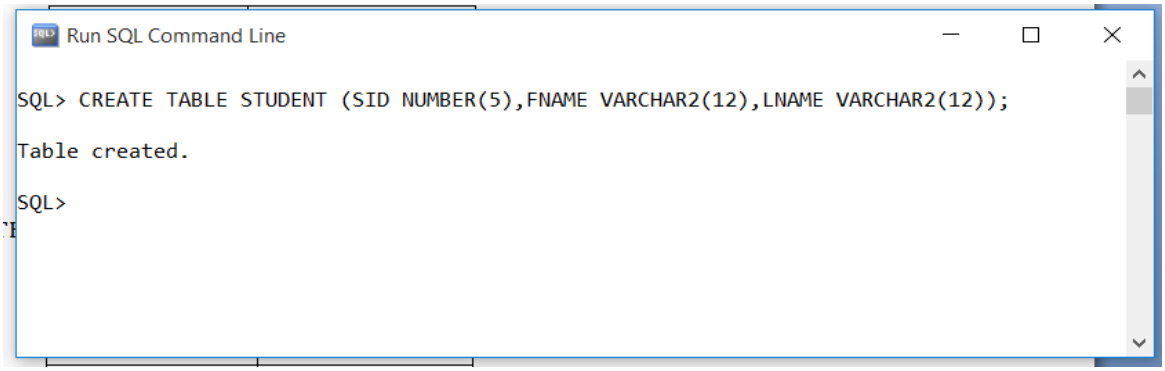
```
Run SQL Command Line

SQL> SELECT * FROM EMP;

       ENO ENAME      JOB              MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7369 SMITH      CLERK           7902 13-JUN-93        800          0         20
      7499 ALLEN      SALESMAN        7698 15-AUG-98       1600        300         30
      7521 WARD       SALESMAN        7698 26-MAR-96       1250        500         30
      7566 JONES      MANAGER         7839 31-OCT-95     3272.5                    20
      7698 BLAKE      MANAGER         7839 11-JUN-92       3135                    30
      7782 CLARK      MANAGER         7839 14-MAY-93       2695                    10
      7788 SCOTT      ANALYST         7566 05-MAR-96       3000                    10
      7839 KING       PRESIDENT            09-JUN-90       5000          0         10
      7844 TURNER     SALESMAN        7698 04-JUN-95       1500          0         30
      7876 ADAMS      CLERK           7788 04-JUN-99       1100                    20
      7900 JAMES      CLERK           7698 23-JUN-00        950                    30

       ENO ENAME      JOB              MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7934 MILLER     CLERK           7782 21-JAN-00       1300                    10
      7902 FORD       ANALYST         7566 05-DEC-97       3000                    20
      7654 MARTIN     SALESMAN        7698 05-DEC-98       1250       1400         30

14 rows selected.

SQL> CREATE VIEW VIEW6 AS (SELECT * FROM EMP WHERE DEPTNO =10);

View created.

SQL> SELECT * FROM VIEW6;

       ENO ENAME      JOB              MGR HIREDATE         SAL       COMM     DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------- ----------
      7782 CLARK      MANAGER         7839 14-MAY-93       2695                    10
      7788 SCOTT      ANALYST         7566 05-MAR-96       3000                    10
      7839 KING       PRESIDENT            09-JUN-90       5000          0         10
      7934 MILLER     CLERK           7782 21-JAN-00       1300                    10

SQL>
```

Exercise No:7

Aim : To Illustrate SQL Sequence and Set Operators

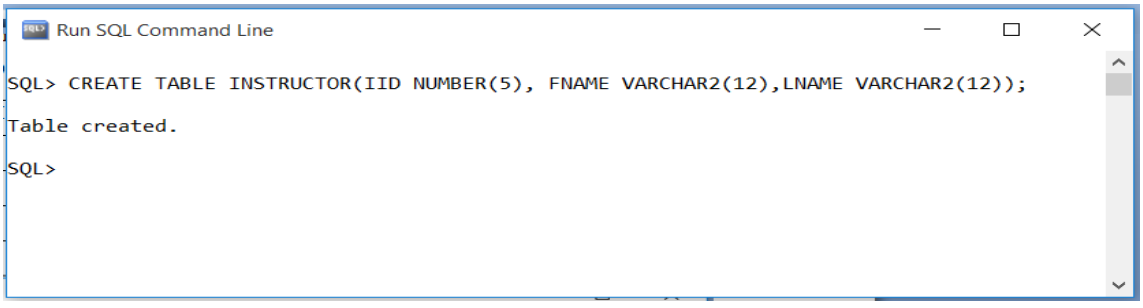
1) CREATE A TABLE CALLED 'STUDENT' WITH THE FOLLOWING STRUCTURE

COLUMN NAME	DATA TYPE
SID	NUMBER(5)
FNAME	VARCHAR2(12)
LNAME	VARCHAR2(12)

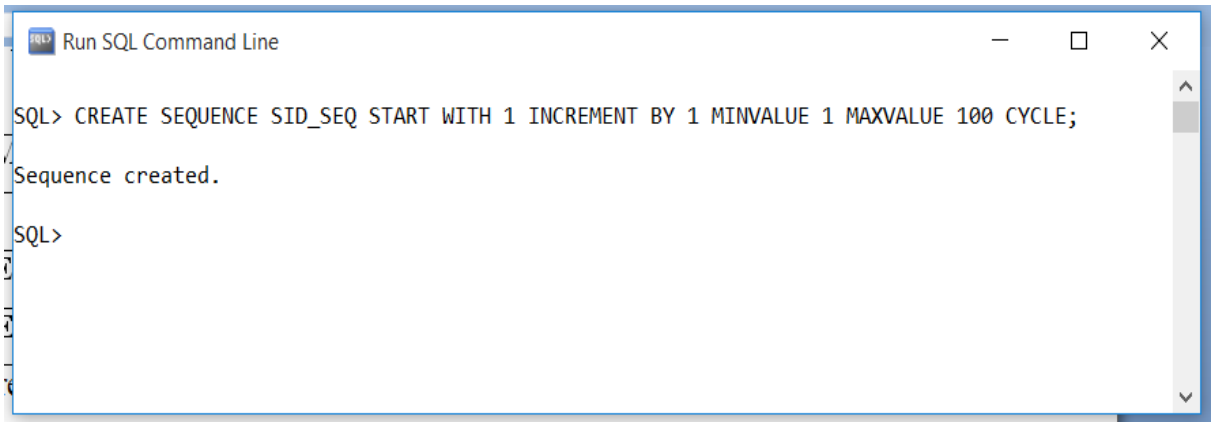


2) CREATE A TABLE CALLED 'INSTRUCTOR' WITH THE FOLLOWING STRUCTURE

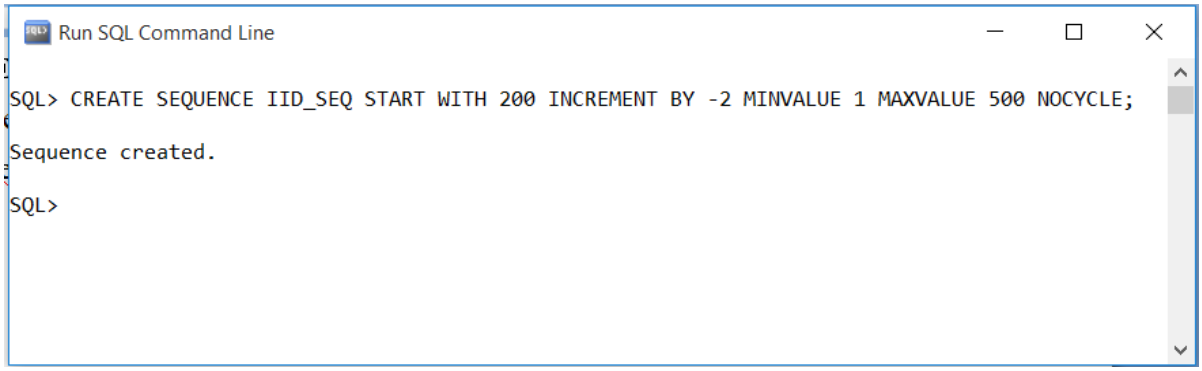
COLUMN NAME	DATA TYPE
IID	NUMBER(5)
FNAME	VARCHAR2(12)
LNAME	VARCHAR2(12)



3) CREATE A SEQUENCE CALLED 'SID_SEQ' WHICH WILL GENERATE NUMBERS FROM 1 TO 500 IN ASCENDING ORDER WITH AN INTERVAL OF '1' THE SEQUENCE MUST RESTART FROM THE NUMBER AFTER GENERATED NUMBER 500.



4) CREATE SEQUENCE CALLED ' IID_SEQ' WHICH SHOULD CONTAIN NUMBERS FROM 500 TO 1 WITIH AN INTERVAL OF -2.



5) POPULATE DATA IN 'STUDENT' TABLES USING 'SID_SEQ'

Select Run SQL Command Line

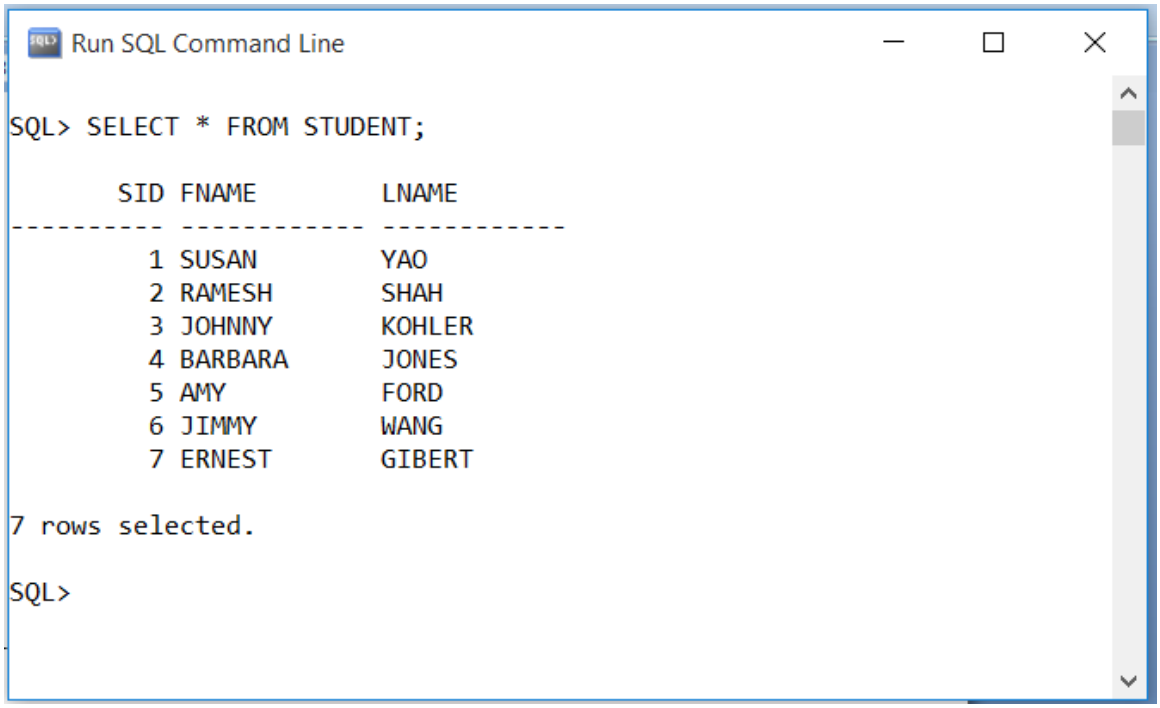
```
SQL> DESC STUDENT;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 SID                                                NUMBER(5)
 FNAME                                              VARCHAR2(12)
 LNAME                                              VARCHAR2(12)

SQL> INSERT INTO STUDENT VALUES(SID_SEQ.NEXTVAL,'&FNAME','&LNAME');
Enter value for fname: SUSAN
Enter value for lname: YAO
old   1: INSERT INTO STUDENT VALUES(SID_SEQ.NEXTVAL,'&FNAME','&LNAME')
new   1: INSERT INTO STUDENT VALUES(SID_SEQ.NEXTVAL,'SUSAN','YAO')

1 row created.

SQL> /
Enter value for fname: RAMESH
Enter value for lname: SHAH
old   1: INSERT INTO STUDENT VALUES(SID_SEQ.NEXTVAL,'&FNAME','&LNAME')
new   1: INSERT INTO STUDENT VALUES(SID_SEQ.NEXTVAL,'RAMESH','SHAH')

1 row created.

SQL> /
Enter value for fname: JOHNNY
Enter value for lname: KOHLER
old   1: INSERT INTO STUDENT VALUES(SID_SEQ.NEXTVAL,'&FNAME','&LNAME')
new   1: INSERT INTO STUDENT VALUES(SID_SEQ.NEXTVAL,'JOHNNY','KOHLER')

1 row created.
```

6) POPULATE DATA IN 'INSTRUCTOR' TABLES USING 'IID_SEQ'

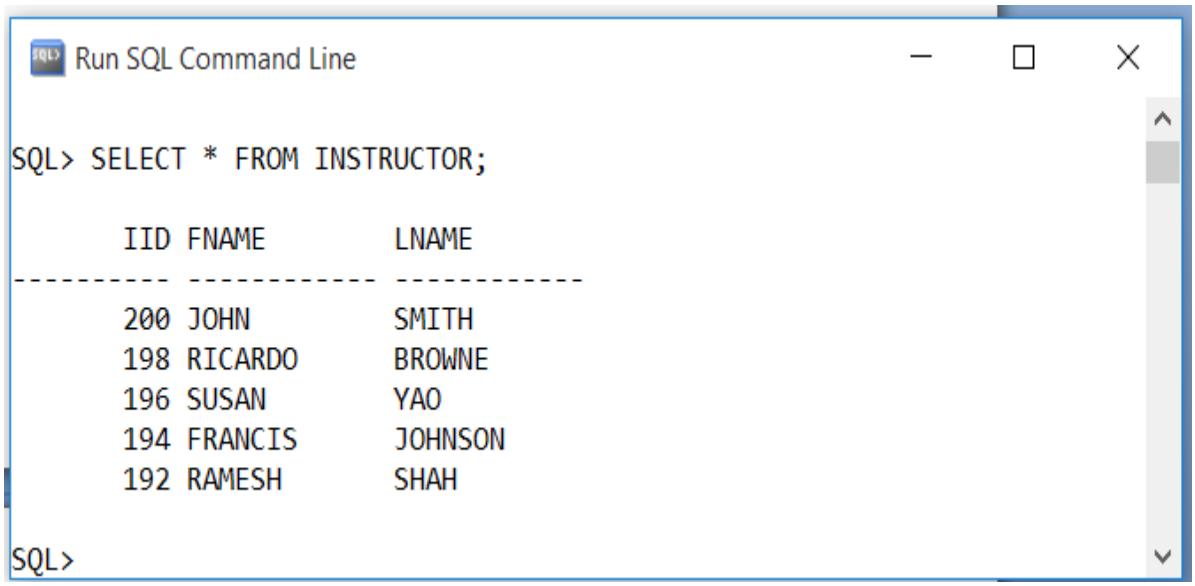
Run SQL Command Line

```
SQL> DESC INSTRUCTOR
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 IID                                                NUMBER(5)
 FNAME                                              VARCHAR2(12)
 LNAME                                              VARCHAR2(12)

SQL> INSERT INTO INSTRUCTOR VALUES(IID_SEQ.NEXTVAL,'&FNAME','&LANE');
Enter value for fname: JOHN
Enter value for lane: SMITH
old   1: INSERT INTO INSTRUCTOR VALUES(IID_SEQ.NEXTVAL,'&FNAME','&LANE')
new   1: INSERT INTO INSTRUCTOR VALUES(IID_SEQ.NEXTVAL,'JOHN','SMITH')

1 row created.

SQL> /
Enter value for fname: RICARDO
Enter value for lane: BROWNE
old   1: INSERT INTO INSTRUCTOR VALUES(IID_SEQ.NEXTVAL,'&FNAME','&LANE')
new   1: INSERT INTO INSTRUCTOR VALUES(IID_SEQ.NEXTVAL,'RICARDO','BROWNE')

1 row created.

SQL> /
Enter value for fname: SUSAN
Enter value for lane: YAO
old   1: INSERT INTO INSTRUCTOR VALUES(IID_SEQ.NEXTVAL,'&FNAME','&LANE')
new   1: INSERT INTO INSTRUCTOR VALUES(IID_SEQ.NEXTVAL,'SUSAN','YAO')

1 row created.
```

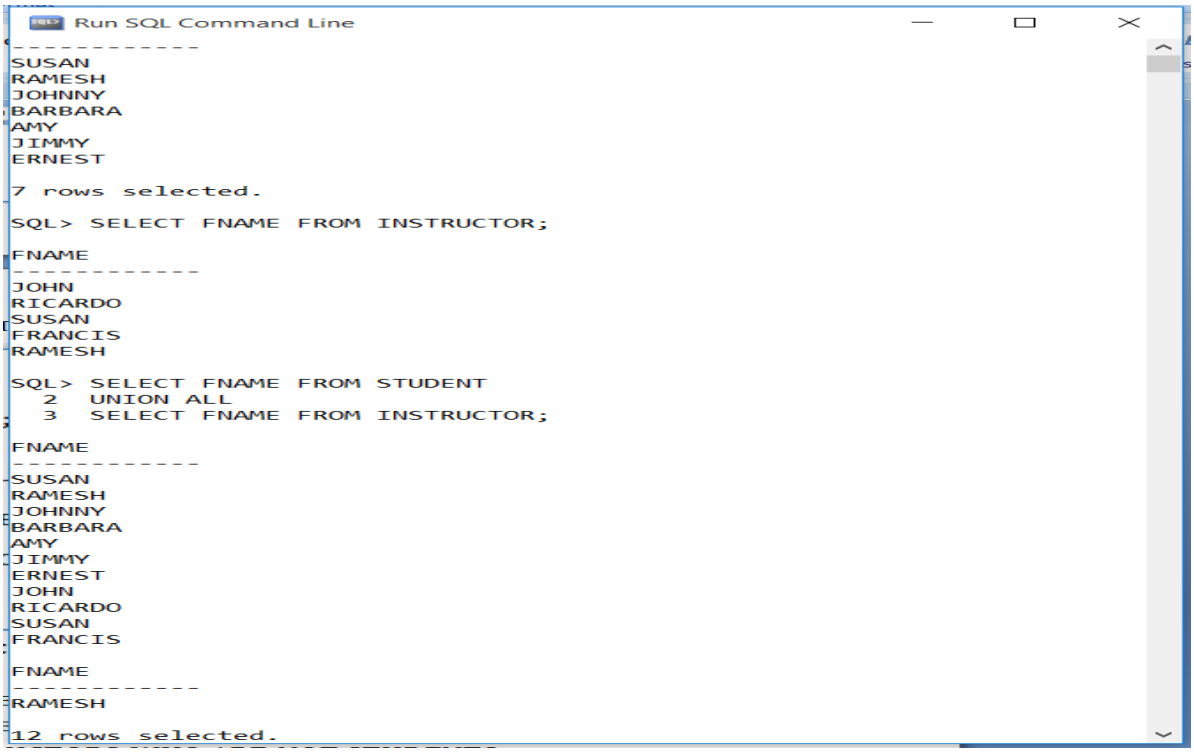
7) LIST THE RECORDS OF STUDENT TABLE



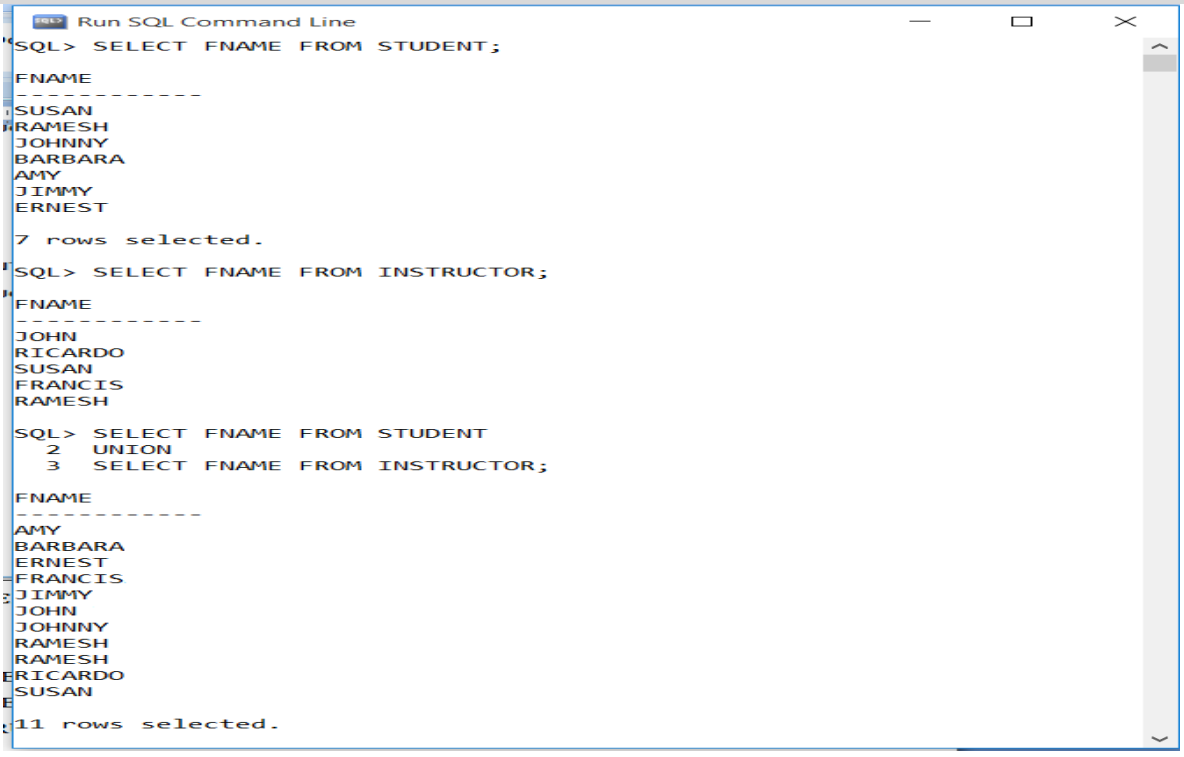
8) LIST THE RECORDS OF INSTRUCTOR TABLE



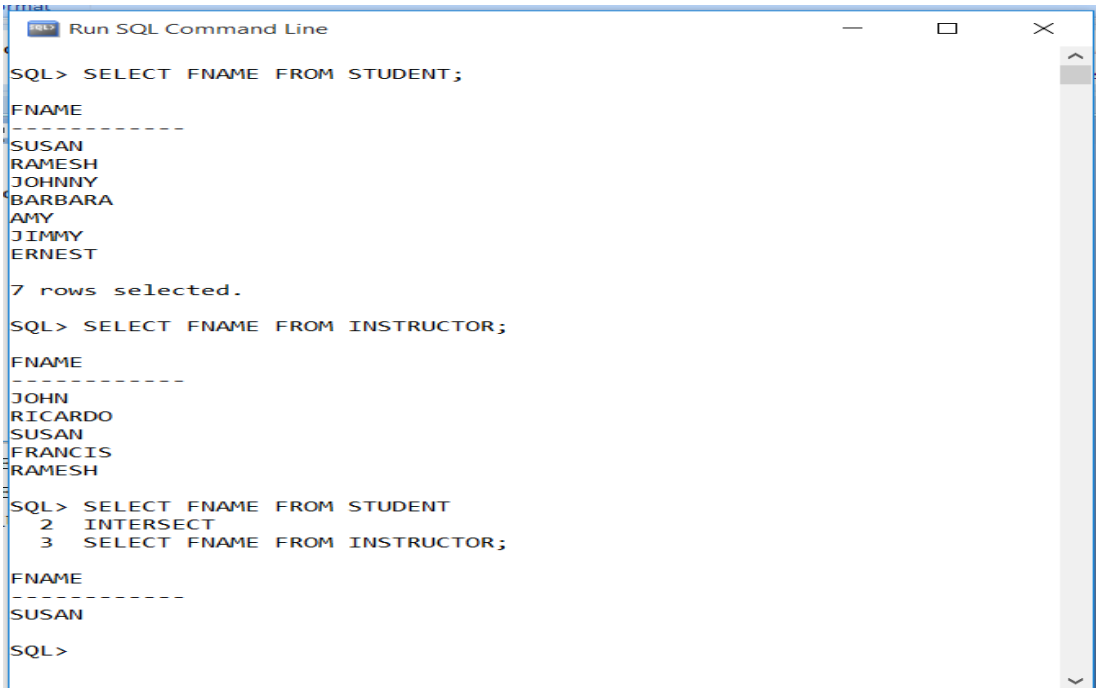
9) LIST THE FIRSTNAMES OF ALL STUDENTS & INSTRUCTORS WITHOUT ELIMINATING DUPLICATE RECORDS.



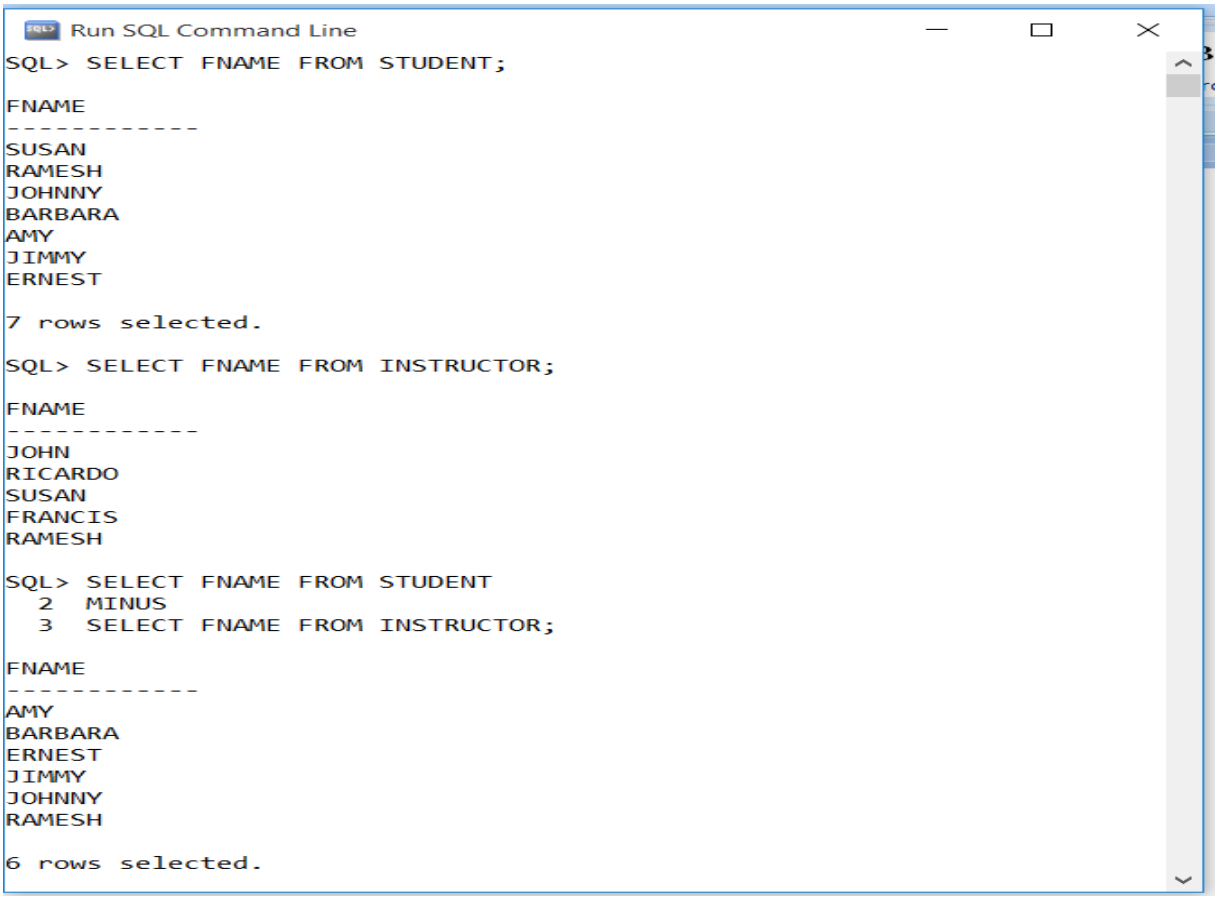
10)LIST THE FIRSTNAMES OF ALL STUDENTS & INSTRUCTORS BY ELIMINATING DUPLICATE RECORDS.



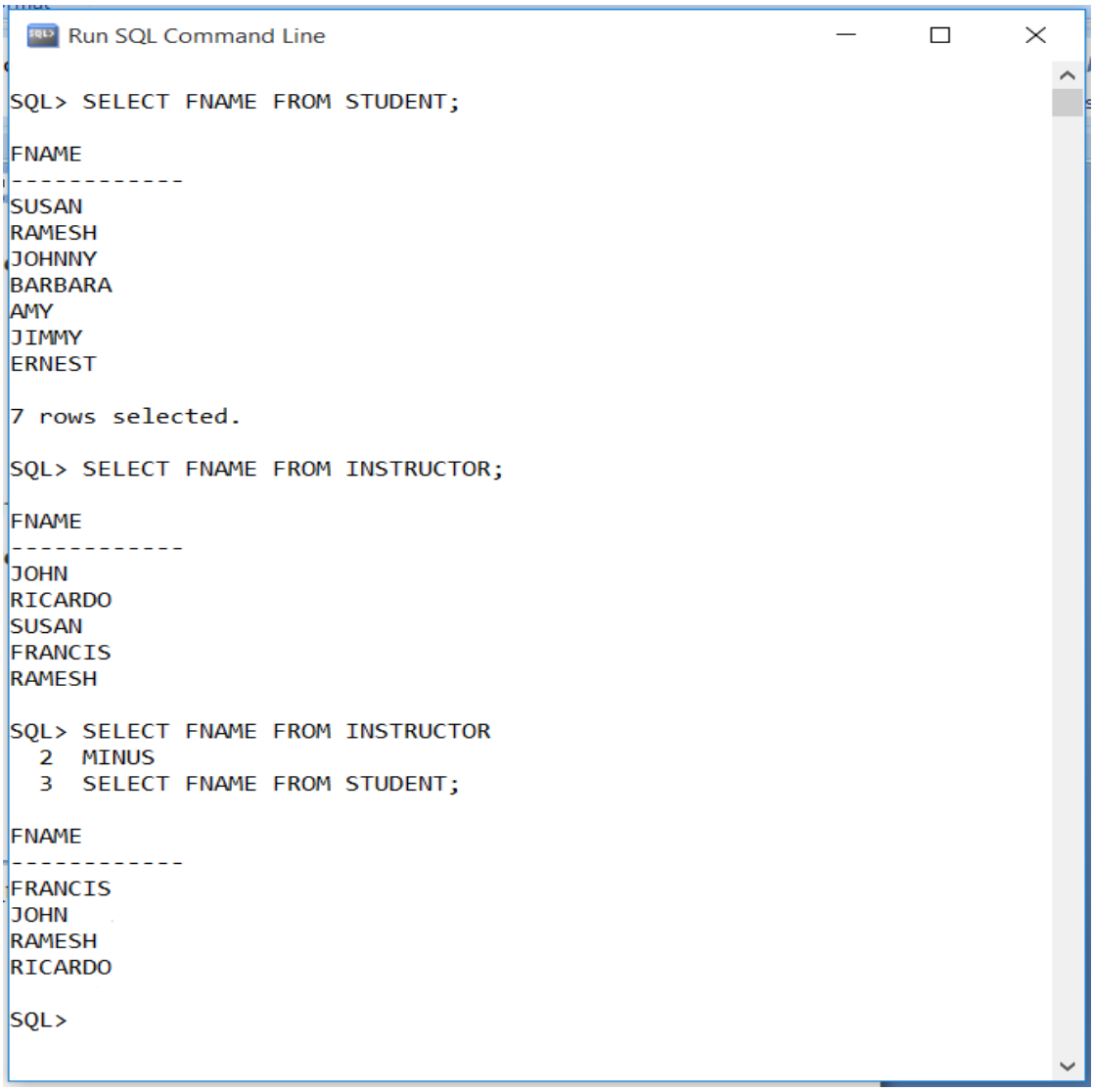
11) LIST ALL THE FIRST NAMES OF STUDENTS WHO IS ALSO AN INSTRUCTOR



12) LIST THE FIRST NAMES OF ALL STUDENTSWHO ARE NOT INSTRUCTORS



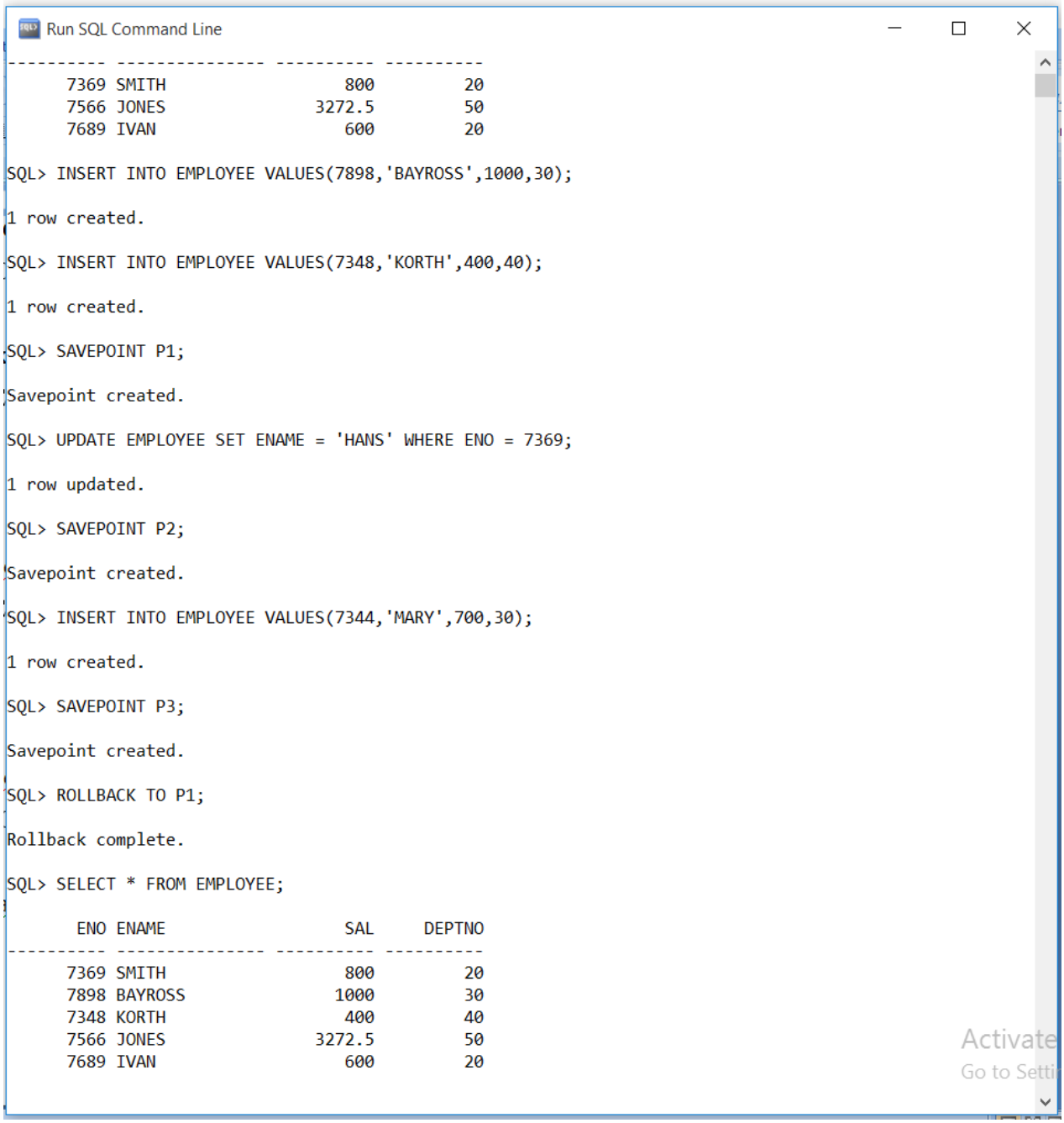
13) LIST THE FIRST NAMES OF ALL INSTRUCTORS WHO ARE NOT STUDENTS



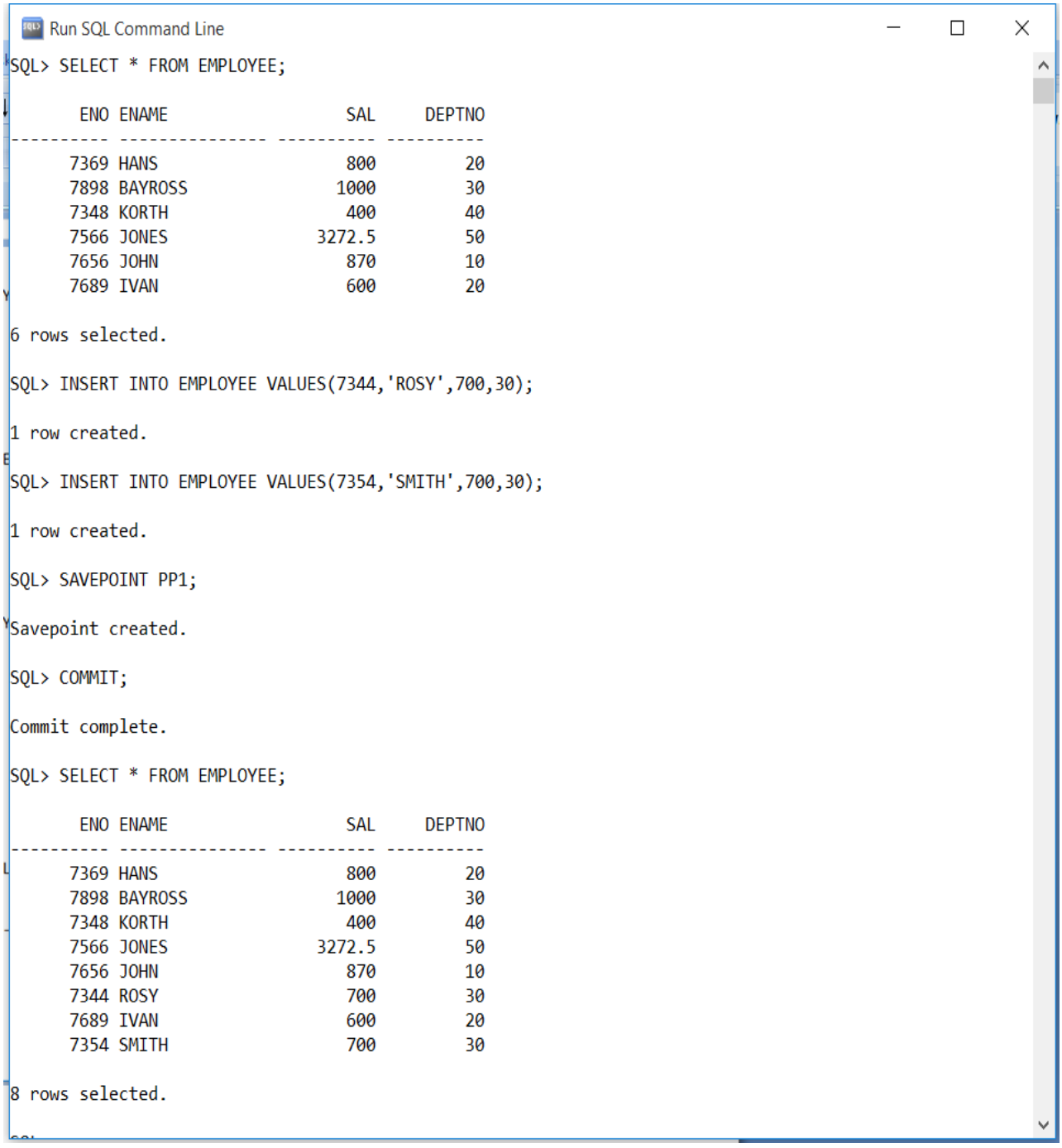
EXERCISE NO:9

AIM : TO ILLUSTRATE TCL COMMANDS

1) TO ILLUSTRATE SAVEPOINT



2) TO ILLUSTRATE COMMIT COMMAND



EXERCISE NO.10

AIM : TO IMPLEMENT PL/SQL CONTROL STATEMENT

1) TO IMPLEMENT 'FOR' STATEMENT

for - Notepad

File Edit Format View Help

```
declare
        i  number(2);
begin
        for i in 1..10
        loop
                dbms_output.put_line(i);
        end loop;
end;
/
```

Ln 1, Col 1

Run SQL Command Line

```
SQL> SET SERVEROUTPUT ON;
SQL> @F:\plsql\for.sql;
1
2
3
4
5
6
7
8
9
10

PL/SQL procedure successfully completed.

SQL>
```

2) TO IMPLEMENT 'WHILE' STATEMENT

loop - Notepad

File Edit Format View Help

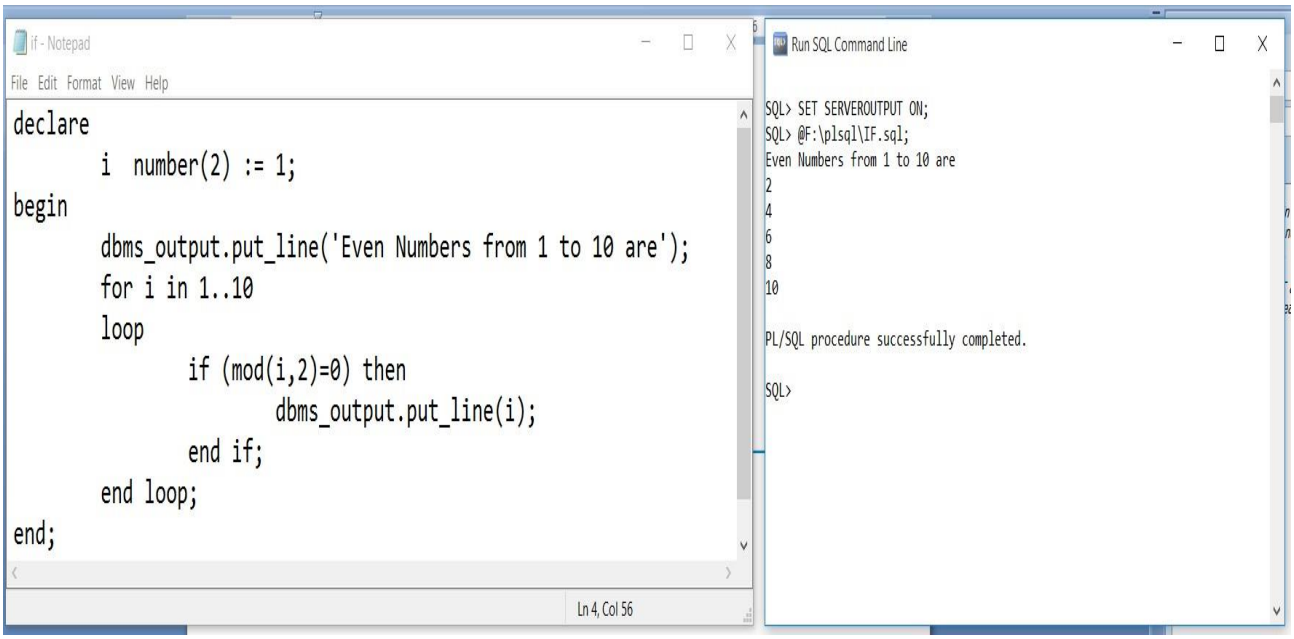
```
declare
        i number(2):=1;
begin
        loop
                exit when i>10;
                dbms_output.put_line(i);
                i:=i+1;
        end loop;
end;
/
```

Ln 1, Col 1

Run SQL Command Line

```
SQL> SET SERVEROUTPUT ON;
SQL> @F:\plsql\LOOP.sql;
1
2
3
4
5
6
7
8
9
10

PL/SQL procedure successfully completed.

SQL>
```

3) TO IMPLEMENT 'IF' STATEMENT



if - Notepad

File Edit Format View Help

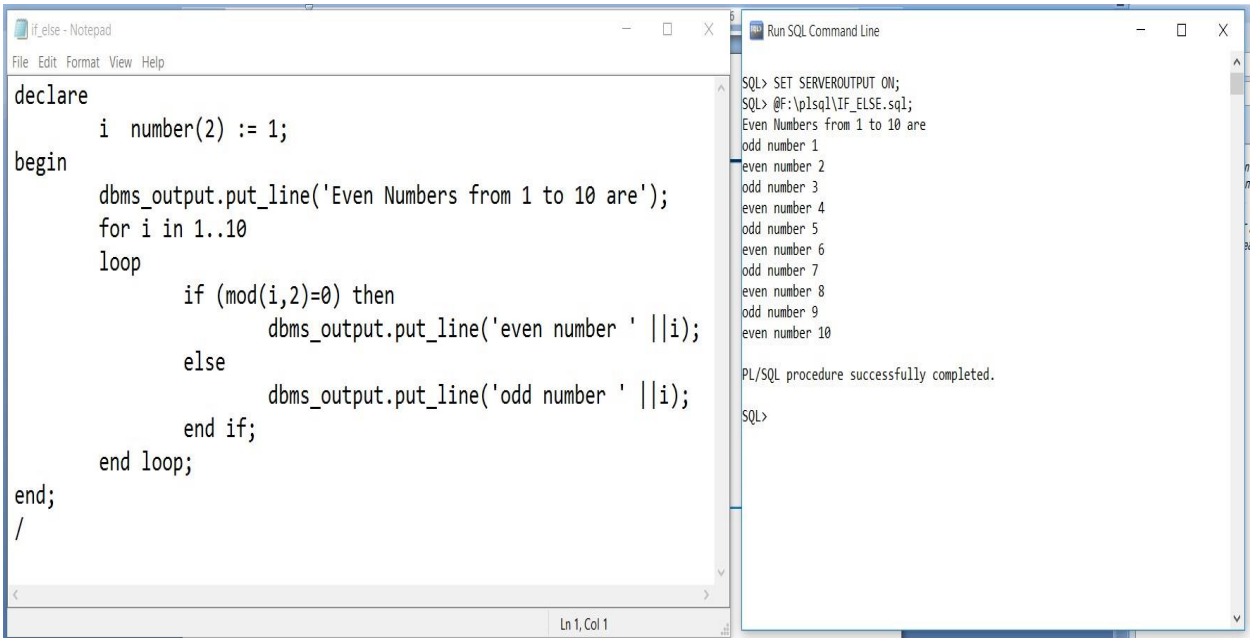
```
declare
        i  number(2) := 1;
begin
        dbms_output.put_line('Even Numbers from 1 to 10 are');
        for i in 1..10
        loop
                if (mod(i,2)=0) then
                        dbms_output.put_line(i);
                end if;
        end loop;
end;
```

Ln 4, Col 56

Run SQL Command Line

```
SQL> SET SERVEROUTPUT ON;
SQL> @F:\plsql\IF.sql;
Even Numbers from 1 to 10 are
2
4
6
8
10

PL/SQL procedure successfully completed.

SQL>
```

4) TO IMPLEMENT 'IF..ELSE' STATEMENT



if_else - Notepad

File Edit Format View Help

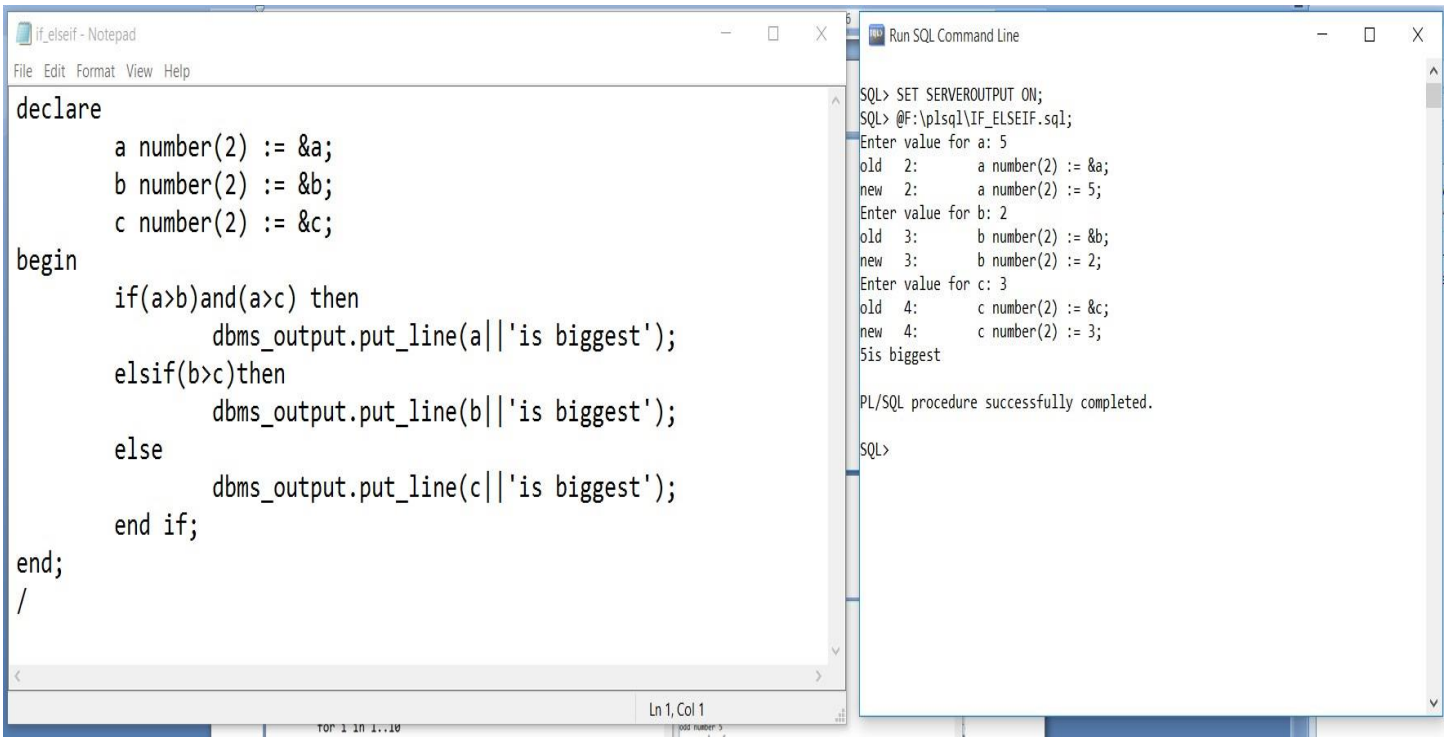
```
declare
        i  number(2) := 1;
begin
        dbms_output.put_line('Even Numbers from 1 to 10 are');
        for i in 1..10
        loop
                if (mod(i,2)=0) then
                        dbms_output.put_line('even number ' ||i);
                else
                        dbms_output.put_line('odd number ' ||i);
                end if;
        end loop;
end;
/
```

Ln 1, Col 1

Run SQL Command Line

```
SQL> SET SERVEROUTPUT ON;
SQL> @F:\plsql\IF_ELSE.sql;
Even Numbers from 1 to 10 are
odd number 1
even number 2
odd number 3
even number 4
odd number 5
even number 6
odd number 7
even number 8
odd number 9
even number 10

PL/SQL procedure successfully completed.

SQL>
```

5) TO IMPLEMENT 'IF..ELSIF' STATEMENT



if_elseif - Notepad

File Edit Format View Help

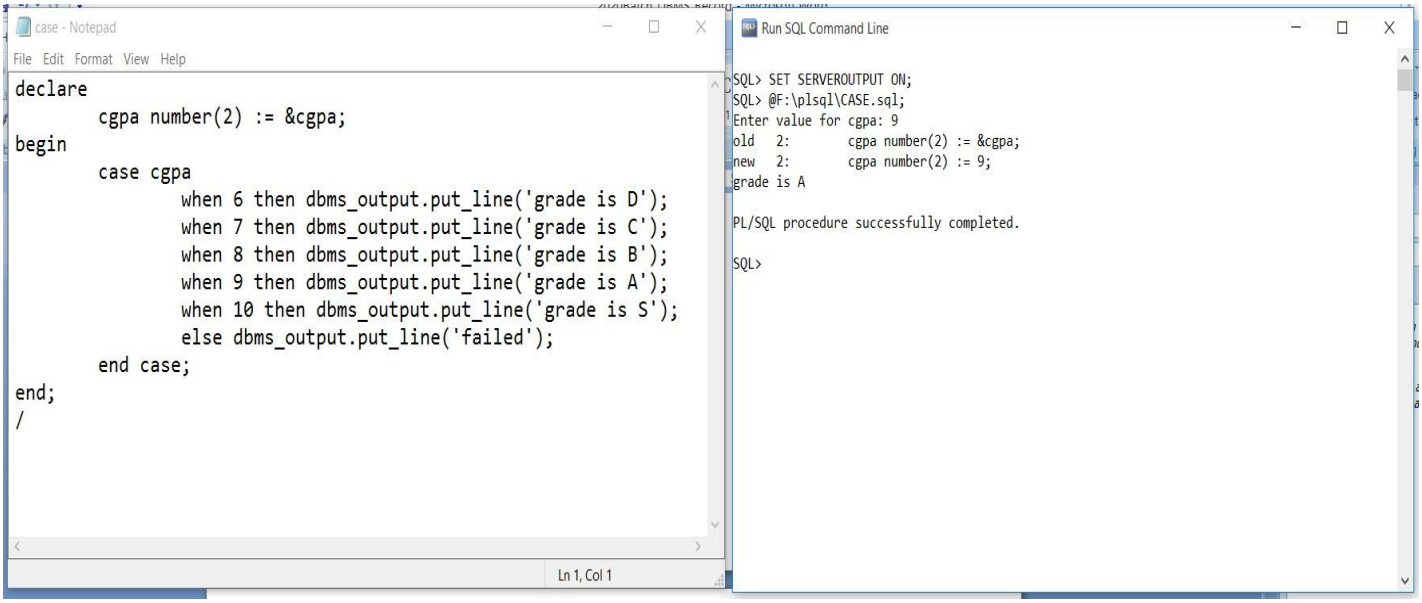
```
declare
        a number(2) := &a;
        b number(2) := &b;
        c number(2) := &c;
begin
        if(a>b)and(a>c) then
                dbms_output.put_line(a||'is biggest');
        elsif(b>c)then
                dbms_output.put_line(b||'is biggest');
        else
                dbms_output.put_line(c||'is biggest');
        end if;
end;
/
```

Ln 1, Col 1

Run SQL Command Line

```
SQL> SET SERVEROUTPUT ON;
SQL> @F:\plsql\IF_ELSEIF.sql;
Enter value for a: 5
old   2:        a number(2) := &a;
new   2:        a number(2) := 5;
Enter value for b: 2
old   3:        b number(2) := &b;
new   3:        b number(2) := 2;
Enter value for c: 3
old   4:        c number(2) := &c;
new   4:        c number(2) := 3;
5is biggest

PL/SQL procedure successfully completed.

SQL>
```

6) TO IMPLEMENT 'CASE' STATEMENT



case - Notepad

File Edit Format View Help

```
declare
        cgpa number(2) := &cgpa;
begin
        case cgpa
                when 6 then dbms_output.put_line('grade is D');
                when 7 then dbms_output.put_line('grade is C');
                when 8 then dbms_output.put_line('grade is B');
                when 9 then dbms_output.put_line('grade is A');
                when 10 then dbms_output.put_line('grade is S');
                else dbms_output.put_line('failed');
        end case;
end;
/
```

Ln 1, Col 1

Run SQL Command Line

```
SQL> SET SERVEROUTPUT ON;
SQL> @F:\plsql\CASE.sql;
Enter value for cgpa: 9
old   2:        cgpa number(2) := &cgpa;
new   2:        cgpa number(2) := 9;
grade is A

PL/SQL procedure successfully completed.

SQL>
```