Practical - 3

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ROLL: E-39

Create a sequence with name s1.

```
QL> CREATE SEQUENCE S1;

Sequence created.

SQL> S1.NEXTVAL;
SP2-0042: unknown command "S1.NEXTVAL" - rest of line ignored.
SQL> S1.nextval
SP2-0042: unknown command "S1.nextval" - rest of line ignored.
SQL> select S1.nextval;
select S1.nextval
                *
ERROR at line 1:
ORA-00923: FROM keyword not found where expected
```

1) Create a sequence with name s1.
2) Access the sequence using s1.nextval from dual table.
3) Access the sequence using s1.currval from dual table.
4) Create a sequence with name s2 starting from 1 ,interval is 2 and max value is 20.
5) Alter sequence s2 to change the max value to 30.
6) Describe user_sequences table.
7) Select * from user_sequences;
8) Create a table student with two attributes student(roll_no, name) and roll_no is a primary key. Insert the tuples in the tables using a roll_no sequence.
9) Drop the sequence s1.

```
SQL> select S1.nextval
  2  FROM DUAL;

   NEXTVAL
----------
```

```
          1

SQL> select S1.CURRVAL
  2  FROM DUAL;

    CURRVAL
----------
          1

SQL> select S1.nextval
  2  FROM DUAL;

   NEXTVAL
----------
          2

SQL> /;

   NEXTVAL
----------
          3

SQL> /;

   NEXTVAL
----------
          4

SQL> /;

   NEXTVAL
----------
          5

SQL> /;

   NEXTVAL
----------
          6

SQL> /;

   NEXTVAL
----------
          7

SQL> /;

   NEXTVAL
----------
          8

SQL> /;

   NEXTVAL
----------
          9
```

```
SQL> COMMIT
  2  ;

Commit complete.

SQL> ESC USER_SEQUENCES;
SP2-0734: unknown command beginning "ESC USER_S..." - rest of line
ignored.
SQL> DESC USER_SEQUENCES;
 Name                                      Null?    Type
 ----------------------------------------- -------- -------------------
---------
 SEQUENCE_NAME                             NOT NULL VARCHAR2(30)
 MIN_VALUE                                          NUMBER
 MAX_VALUE                                          NUMBER
 INCREMENT_BY                              NOT NULL NUMBER
 CYCLE_FLAG                                         VARCHAR2(1)
 ORDER_FLAG                                         VARCHAR2(1)
 CACHE_SIZE                                NOT NULL NUMBER
 LAST_NUMBER                               NOT NULL NUMBER

SQL> SELECT SEQUENCE_NAME,MIN_VALUE,MAX_VALUE,INCREMENT_BY
  2  FROM USER_SEQUENCES
  3  WHERE USER_NAME = 'S1';
WHERE USER_NAME = 'S1'
      *
ERROR at line 3:
ORA-00904: "USER_NAME": invalid identifier


SQL> SELECT SEQUENCE_NAME,MIN_VALUE,MAX_VALUE,INCREMENT_BY
  2  FROM USER_SEQUENCES
  3  WHERE SEQUENCE_NAME = 'S1';

SEQUENCE_NAME                   MIN_VALUE  MAX_VALUE INCREMENT_BY
------------------------------ ---------- ---------- ------------
S1                                      1 1.0000E+28            1

SQL> CREATE SEQUENCE REVSEQ
  2  INCREMENT BY -1
  3  START WITH 10
  4  MINVALUE 1;
CREATE SEQUENCE REVSEQ
*
ERROR at line 1:
ORA-04004: MINVALUE must be less than MAXVALUE


SQL> CREATE SEQUENCE rev1
  2  INCREMENT BY -1
  3  START WITH 10
  4  MINVALUE 1;
CREATE SEQUENCE rev1
*
ERROR at line 1:
ORA-04004: MINVALUE must be less than MAXVALUE
```

```
SQL> CREATE SEQUENCE rev1
  2  INCREMENT BY -1
  3  START WITH 10
  4  MINVALUE 1
  5  MAXVALUE 10;

Sequence created.

SQL> select * from rev1;
select * from rev1
              *
ERROR at line 1:
ORA-02201: sequence not allowed here


SQL> SELECT SEQUENCE_NAME,MIN_VALUE,MAX_VALUE,INCREMENT_BY
  2  FROM USER_SEQUENCES
  3  WHERE SEQUENCE_NAME = 'rev1';

no rows selected

SQL> select rev1.nextval
  2  FROM DUAL;

  NEXTVAL
----------
        10

SQL> select S1.nextval
  2  FROM DUAL;

  NEXTVAL
----------
        10

SQL> /;

  NEXTVAL
----------
        11

SQL> /;

  NEXTVAL
----------
        12

SQL> select rev1.nextval
  2  FROM DUAL;

  NEXTVAL
----------
         9

SQL> /;

  NEXTVAL
----------
```

```
          8

SQL> /;

    NEXTVAL
----------
          7

SQL> /;

    NEXTVAL
----------
          6

SQL> /;

    NEXTVAL
----------
          5

SQL> SELECT SEQUENCE_NAME,MIN_VALUE,MAX_VALUE,INCREMENT_BY
  2  FROM USER_SEQUENCES
  3  WHERE SEQUENCE_NAME = 'rev1';

no rows selected

SQL> /;

no rows selected

SQL> select rev1.nextval
  2  FROM DUAL;

    NEXTVAL
----------
          4

SQL> /;

    NEXTVAL
----------
          3

SQL> /;

    NEXTVAL
----------
          2

SQL> /;

    NEXTVAL
----------
          1

SQL> /;
select rev1.nextval
*
```

```
ERROR at line 1:
ORA-08004: sequence REV1.NEXTVAL goes below MINVALUE and cannot be
instantiated


SQL> DESC USER_SEQUENCES;
 Name                                      Null?    Type
 ----------------------------------------- -------- -------------------
 ---------
 SEQUENCE_NAME                             NOT NULL VARCHAR2(30)
 MIN_VALUE                                          NUMBER
 MAX_VALUE                                          NUMBER
 INCREMENT_BY                              NOT NULL NUMBER
 CYCLE_FLAG                                         VARCHAR2(1)
 ORDER_FLAG                                         VARCHAR2(1)
 CACHE_SIZE                                NOT NULL NUMBER
 LAST_NUMBER                               NOT NULL NUMBER

SQL> SET NUMWIDTH 7
SQL> SELECT * FROM USER_SEQUENCES;

SEQUENCE_NAME                   MIN_VALUE MAX_VALUE INCREMENT_BY C O
CACHE_SIZE
------------------------------ --------- --------- ------------ - - ---
-------
LAST_NUMBER
-----------
REV1                                   1        10           -1 N N
20
         0

S1                                     1   1.0E+28            1 N N
20
        21


SQL> CREATE SEQUENCE COURSE_SQ
  2   INCREMENT BY 1
  3   START BY 106
  4   MINVALUE 101
  5   MAXVALUE 108;
START BY 106
     *
ERROR at line 3:
ORA-00970: missing WITH keyword


SQL> CREATE SEQUENCE COURSE_SQ
  2   INCREMENT BY 1
  3   START WITH 106
  4   MINVALUE 101
  5   MAXVALUE 108;

Sequence created.

SQL> SELECT *
  2   FROM USER_SEQUENCE;
FROM USER_SEQUENCE
```

```
      *
ERROR at line 2:
ORA-00942: table or view does not exist


SQL> SELECT *
  2  FROM USER_SEQUENCES;

SEQUENCE_NAME                 MIN_VALUE MAX_VALUE INCREMENT_BY C O
CACHE_SIZE
----------------------------- --------- --------- ------------ - - ---
-------
LAST_NUMBER
-----------
COURSE_SQ                           101       108            1 N N
20
        106


REV1                                  1        10           -1 N N
20
          0


S1                                    1   1.0E+28            1 N N
20
         21


SQL> SELECT * FROM CAT;

TABLE_NAME                    TABLE_TYPE
----------------------------- -----------
COLLEGE                       TABLE
COURSE                        TABLE
COURSE_SQ                     SEQUENCE
PARTICIAPANT_1                TABLE
PARTICIAPANT_2                TABLE
PARTICIPANT                   TABLE
PARTICIPANT_1                 TABLE
PARTICIPANT_2                 TABLE
REV1                          SEQUENCE
S1                            SEQUENCE

10 rows selected.

SQL> INSERT INTO COURSE
  2  VALUES (COURSE_SQ.NEXTVAL,"Cloud computing".3);
VALUES (COURSE_SQ.NEXTVAL,"Cloud computing".3)
                                      *
ERROR at line 2:
ORA-00917: missing comma


SQL> VALUES (COURSE_SQ.NEXTVAL,"Cloud computing",3);
SP2-0734: unknown command beginning "VALUES (CO..." - rest of line
ignored.
SQL> INSERT INTO COURSE
  2  VALUES (COURSE_SQ.NEXTVAL,"Cloud computing",3);
VALUES (COURSE_SQ.NEXTVAL,"Cloud computing",3)
```

```
                                *
ERROR at line 2:
ORA-00984: column not allowed here


SQL> VALUES (COURSE_SQ.NEXTVAL ,"Cloud computing",5);
SP2-0734: unknown command beginning "VALUES (CO..." - rest of line
ignored.
SQL> INSERT INTO COURSE
  2  VALUES (COURSE_SQ.NEXTVAL,"Cloud computing",5);
VALUES (COURSE_SQ.NEXTVAL,"Cloud computing",5)
                          *
ERROR at line 2:
ORA-00984: column not allowed here


SQL> INSERT INTO COURSE
  2  VALUES (COURSE_SQ.NEXTVAL,'Cloud computing',5);
INSERT INTO COURSE
*
ERROR at line 1:
ORA-00001: unique constraint (Gaurav.COURSE_PK_CID) violated


SQL> INSERT INTO COURSE
  2  VALUES (COURSE_SQ.NEXTVAL, 'Cloud Computing', 3);

1 row created.

SQL> select * from course;

    CID COURSE_NAME                     CREDIT
------- ------------------------------- -------
    101 Database Management Systems          5
    102 Object-Oriented Systems              4
    103 Basic Operating System               3
    104 Computer Network                     4
    105 Al                                   3
    106 Machine Learning                     3
    107 Cloud Computing                      3

7 rows selected.

SQL> SELECT COURSE_SQ.CURRVAL FROM DUAL;

CURRVAL
-------
    107

SQL> SELECT COURSE_SQ.CURRVAL FROM DUAL;

CURRVAL
-------
    107

SQL> SELECT COURSE_SQ.NEXTVAL FROM DUAL;

NEXTVAL
```

```
-------
    108

SQL> VALUES (COURSE_SQ.NEXTVAL, 'Cloud Computing', 5);
SP2-0734: unknown command beginning "VALUES (CO..." - rest of line
ignored.

SQL> ALTER SEQUENCE COURSE_SQ
  2  MAXVALUE 120;

Sequence altered.

SQL> INSERT INTO COURSE
  2  VALUES (COURSE_SQ.NEXTVAL, 'Cloud Computing', 6);
INSERT INTO COURSE
*
ERROR at line 1:
ORA-02290: check constraint (Gaurav.COURSE_CK_CREDIT) violated


SQL> INSERT INTO COURSE
  2  VALUES (COURSE_SQ.NEXTVAL, 'Cloud Computing', 4);
INSERT INTO COURSE
*
ERROR at line 1:
ORA-00001: unique constraint (Gaurav.COURSE_UQ_CNAME) violated


SQL> SELECT * FROM COURSE;

    CID COURSE_NAME                      CREDIT
------- ------------------------------ -------
    101 Database Management Systems         5
    102 Object-Oriented Systems             4
    103 Basic Operating System              3
    104 Computer Network                    4
    105 Al                                  3
    106 Machine Learning                    3
    107 Cloud Computing                     3

7 rows selected.

SQL> SELECT COURSE_SQ.NEXTVAL FROM DUAL;

NEXTVAL
-------
    111

SQL> SELECT COURSE_SQ.CURRVAL FROM DUAL;

CURRVAL
-------
    112



SQL> SELECT * FRO USER_CONSTRAINT
  2  WHERE USER_NAME = 'COURSE';
```

```
SELECT * FRO USER_CONSTRAINT
          *
ERROR at line 1:
ORA-00923: FROM keyword not found where expected


SQL> CREATE SQUENCE S3
  2   INCREMENT BY 10
  3   START WITH 10
  4    MAXVALUE 100;
CREATE SQUENCE S3
        *
ERROR at line 1:
ORA-00901: invalid CREATE command


SQL> CREATE SEQUENCE S3
  2   INCREMENT BY 10
  3   START WITH 10
  4    MAXVALUE 100;

Sequence created.

SQL> SELECT S3.NEXTVALUE
  2   FROM DUAL;
SELECT S3.NEXTVALUE
        *
ERROR at line 1:
ORA-00904: "S3"."NEXTVALUE": invalid identifier


SQL> SELECT S3.NEXTVAL
  2   FROM DUAL;

NEXTVAL
-------
     10

SQL> /;

NEXTVAL
-------
     20

SQL> /;

NEXTVAL
-------
     30

SQL> CYCLE
SP2-0042: unknown command "CYCLE" - rest of line ignored.
SQL> /;

NEXTVAL
-------
     40
```

```
SQL> /;

NEXTVAL
-------
     50

SQL> CREATE SEQUENCE S3
  2   INCREMENT BY 10
  3   START WITH 10
  4   MINVALUE 10 | CYCLE
  5   MAXVALUE 100
  6   CACHE 5;
MINVALUE 10 | CYCLE
             *
ERROR at line 4:
ORA-00933: SQL command not properly ended


SQL> CREATE SEQUENCE S3
  2   INCREMENT BY 10
  3   START WITH 10
  4   MAXVALUE 100
  5   MINVALUE 10
  6   CYCLE
  7   CACHE 5;
CREATE SEQUENCE S3
                *
ERROR at line 1:
ORA-00955: name is already used by an existing object


SQL> ALTER SEQUENCE S3
  2   INCREMENT BY 10
  3   START WITH 10
  4   MAXVALUE 100
  5   MINVALUE 10
  6   CYCLE
  7   CACHE 5;
START WITH 10
*
ERROR at line 3:
ORA-02283: cannot alter starting sequence number


SQL> ALTER SEQUENCE S3
  2   CACHE 5
  3   CYCLE;

Sequence altered.

SQL> SELECT  S3.NEXTVAL
  2   FROM DUAL;

NEXTVAL
-------
      1

SQL> /;
```

```
NEXTVAL
-------
     11

SQL> /;

NEXTVAL
-------
     21

SQL> /;

NEXTVAL
-------
     31

SQL> /;

NEXTVAL
-------
     41

SQL> /;

NEXTVAL
-------
     51

SQL> /;

NEXTVAL
-------
     61

SQL> /

NEXTVAL
-------
     71

SQL> /;

NEXTVAL
-------
     81

SQL> /;

NEXTVAL
-------
     91

SQL> /;

NEXTVAL
-------
      1
```

```
SQL> /;

NEXTVAL
-------
     11

SQL> /;

NEXTVAL
-------
     21

SQL> /;

NEXTVAL
-------
     31

SQL> /;

NEXTVAL
-------
     41

SQL> /;

NEXTVAL
-------
     51

SQL> /;

NEXTVAL
-------
     61

SQL> /;

NEXTVAL
-------
     71

SQL> /;

NEXTVAL
-------
     81

SQL> SET LINESIZE 400;
SQL> SELECT * FROM USER_SEQUENCES;

SEQUENCE_NAME                     MIN_VALUE MAX_VALUE INCREMENT_BY C O
CACHE_SIZE
LAST_NUMBER
----------------------------- --------- --------- ------------ - - ---
------- ----------
-
```

COURSE_SQ	101	120	1	N	N
20					
121					
REV1	1	10	-1	N	N
20					
0					
S1	1	1.0E+28	1	N	N
20					
21					
S3	1	100	10	Y	N
5 101					

**1) Create a simple view emp_sal_details with attribute empno,
ename,sal.**
**2) Display the tuples present in your view. [select * from
emp_sal_details;]**
**3) Create read only view v1 to display all tuples in the dept
table.**
4) desc user_views;
5) select view_name,read_only from user_views;
**6) Do the testing of read only view by doing insertion,
deletion and updation on the**
read only view created in Q.3.

```
SQL> VIEW
SP2-0042: unknown command "VIEW" - rest of line ignored.
SQL> CREATE  VIEW V1
  2  AS SELECT * FROM PARTICIPANT
  3  WHERE PID IS (101,104,104,107);
WHERE PID IS (101,104,104,107)
            *
ERROR at line 3:
ORA-00908: missing NULL keyword


SQL> CREATE  VIEW V1
  2  AS SELECT * FROM PARTICIPANT
  3  WHERE PID IN(101);

View created.

SQL> SELECT * FROM V1;

no rows selected

SQL> DESC USER_VIEWS;
 Name
Null?     Type
 -------------------------------------------------------------------------
 -------------------------------------------------------------------------
 -------------------------------------------------------------------------
```

```
------------------- ------- -------------------------------------
------------------------------------------------------------------
----------------------------------------------

VIEW_NAME
NOT NULL VARCHAR2(30)

TEXT_LENGTH
NUMBER

TEXT
LONG

TYPE_TEXT_LENGTH
NUMBER

TYPE_TEXT
VARCHAR2(4000)

OID_TEXT_LENGTH
NUMBER

OID_TEXT
VARCHAR2(4000)

VIEW_TYPE_OWNER
VARCHAR2(30)

VIEW_TYPE
VARCHAR2(30)

SUPERVIEW_NAME
VARCHAR2(30)

EDITIONING_VIEW
VARCHAR2(1)

READ_ONLY
VARCHAR2(1)

SQL> SET LINESIZE 300
SQL> DESC USER_VIEWS;
 Name
Null?     Type
 -----------------------------------------------------------------
------------------------------------------------------------------
---------------------------- ------- ----------------------------
------------------------------------------------------------------
----------------
 VIEW_NAME
NOT NULL VARCHAR2(30)
 TEXT_LENGTH
NUMBER
 TEXT
LONG

TYPE_TEXT_LENGTH
NUMBER
```

```
 TYPE_TEXT
VARCHAR2(4000)
 OID_TEXT_LENGTH
NUMBER
 OID_TEXT
VARCHAR2(4000)


VIEW_TYPE_OWNER
VARCHAR2(30)
 VIEW_TYPE
VARCHAR2(30)
 SUPERVIEW_NAME
VARCHAR2(30)
 EDITIONING_VIEW
VARCHAR2(1)
 READ_ONLY
VARCHAR2(1)

SQL> CREATE VIEW V1
  2  AS SELECT * FROM COURSE;
CREATE VIEW V1
            *
ERROR at line 1:
ORA-00955: name is already used by an existing object


SQL> CREATE VIEW v1
  2  as SELECT * FROM COURSE;
CREATE VIEW v1
            *
ERROR at line 1:
ORA-00955: name is already used by an existing object


SQL> REPLACE VIEW v1
SP2-0734: unknown command beginning "REPLACE VI..." - rest of line
ignored.
SQL> REPLACE VIEW v1
SP2-0734: unknown command beginning "REPLACE VI..." - rest of line
ignored.
SQL> REPLACE v1
SP2-0042: unknown command "REPLACE v1" - rest of line ignored.
SQL> CREATE VIEW v2
  2  as SELECT * FROM COURSE;

View created.

SQL> SELECT * FROM v2;

    CID COURSE_NAME
CREDIT
------- ------------------------------ ------
-
    101 Database Management Systems         5
    102 Object-Oriented Systems             4
    103 Basic Operating System              3
    104 Computer Network
4
```

```
    105 Al
3
    106 Machine Learning
3
    107 Cloud Computing                              3

7 rows selected.

SQL> commit
  2  ;

Commit complete.

SQL> desc v2;
 Name
Null?    Type
 ----------------------------------------------------------------------
----------------------------------------------------------------------
----------------------------- ------- -----------------------------
----------------------------------------------------------------------
----------------
 CID
NOT NULL NUMBER(3)
 COURSE_NAME
NOT NULL VARCHAR2(30)

CREDIT
NUMBER(2)

SQL> select * from v1;

no rows selected

SQL> desc v2;

Name
Null?    Type
 -----------------------------------------------------------------------
-----------------------------------------------------------------------
----------------------------- ------- -----------------------------
----------------------------------------------------------------------
----------------

CID
NOT NULL NUMBER(3)
 COURSE_NAME
NOT NULL VARCHAR2(30)
 CREDIT
NUMBER(2)

SQL> set linesize 500
SQL> desc v2;
 Name
Null?    Type
 ----------------------------------------------------------------------
----------------------------------------------------------------------
----------------------------------------------------------------------
----------------------------------------------------------------------
```

```
---------- ------- -------------------------------------------------
-----------------------------------------------------------------------
-----------------------------------------------------------------------
---
 CID
NOT NULL NUMBER(3)

COURSE_NAME
NOT NULL VARCHAR2(30)

CREDIT
NUMBER(2)

SQL> set linesize 200
SQL> desc v2;
 Name
Null?    Type
 ----------------------------------------------------------------------
----------------------------------------------- -------- -----------------
------------------------------------------------------------
 CID
NOT NULL NUMBER(3)
 COURSE_NAME
NOT NULL VARCHAR2(30)
 CREDIT
NUMBER(2)


SQL> create VIEW v3 AS SELECT * FROM COURSE
  2  with READ ONLY;

View created.

SQL> SELECT * FROM V3;

    CID COURSE_NAME
CREDIT
------- ----------------------------- ------
-
    101 Database Management Systems
5
    102 Object-Oriented Systems
4
    103 Basic Operating System
3
    104 Computer Network
4
    105 Al
3
    106 Machine Learning
3
    107 Cloud Computing
3

7 rows selected.

SQL> DESC V3;
```

```
Name
Null?    Type
 -----------------------------------------------------------------------
-------------------------------------------------------------------------
-------------------------------------------------------------------------
-------------------------------------------------------------------------
-------------------------------------------------------------------------
---------------------------------------------------------- ------- --
-------------------------------------------------------------------------
-------------------------------------------------------------------------
-------------------------------------------------------------------------
----------------------------------------------------------

CID
NOT NULL NUMBER(3)

COURSE_NAME
NOT NULL VARCHAR2(30)

CREDIT
NUMBER(2)

SQL> SET LINESIZE  300;
SQL> DESC V3;
 Name
Null?    Type
 -----------------------------------------------------------------------
-------------------------------------------------------------------------
----------------------------- ------- ----------------------------
-------------------------------------------------------------------------
----------------
 CID
NOT NULL NUMBER(3)
 COURSE_NAME
NOT NULL VARCHAR2(30)

CREDIT
NUMBER(2)

SQL> INSERT INTO V3
  2  VALUES(105, 'oracle',5);
INSERT INTO V3
*
ERROR at line 1:
ORA-42399: cannot perform a DML operation on a read-only view


SQL> INSERT INTO V3
  2  ;

*
ERROR at line 2:
ORA-00926: missing VALUES keyword


SQL> INSERT INTO v3
  2  VALUES(105, 'oracle',5);
```

```
INSERT INTO v3
*
ERROR at line 1:
ORA-42399: cannot perform a DML operation on a read-only view


SQL> delete  from v3
  2  where CID = 106;
delete  from v3
             *
ERROR at line 1:
ORA-42399: cannot perform a DML operation on a read-only view


SQL> update v3
  2  set credit = 4
  3  where credit =3;
where credit =3
       *
ERROR at line 3:
ORA-42399: cannot perform a DML operation on a read-only view


SQL> select * from v3;

    CID COURSE_NAME                       CREDIT
------- --------------------------- ------
-
    101 Database Management Systems
5
    102 Object-Oriented Systems           4
    103 Basic Operating System            3
    104 Computer Network                  4
    105 Al
3
    106 Machine Learning
3
    107 Cloud Computing
3

7 rows selected.
```

7) Create a complex view v3 to display min(sal),max(sal),total(sal),avg(sal) from emp table.[using alias is mandatory]

```
SQL> CREATE VIEW V4
  2  AS ;)
  3  ;
AS ;)
   *
ERROR at line 2:
ORA-00911: invalid character
```

```
SQL> CREATE VIEW v4 (MAX_CREDIT,MIN_CREDIT,AVG_CREDIT)
  2  AS SELECT MAX(CREDIT),MIN(CREDIT),AVG(CREDIT) FROM COURSE;

View created.

SQL> SELECT * FROM v4;

MAX_CREDIT MIN_CREDIT AVG_CREDIT
---------- ---------- ----------
         5          3    3.57143


SQL> commit;

Commit complete.

SQL> spool off;
```

8) create a view v4 to display deptno,dname, empno,ename,sal.[view using join of 2 tables]

```
SQL> CREATE VIEW V4

  2  AS

  3  SELECT C.CID, CNAME, PID, PNAME

  4  FROM COURSE C, PARTICIPANT P

  5  WHERE C.CID = P.CID;


View created.


SQL> SELECT * FROM V4;


       CID CNAME                  PID PNAME
---------- --------------- ---------- ----------------
                                 1007 Krishna Mundada
       106 ITK                   1008 BRAD PITT
       101 DBMS                  1009 MARY JANE
       106 ITK                   1012 JOHN WICK


SQL> CREATE VIEW V5

  2  AS

  3  SELECT *
```

```
    4  FROM PARTICIPANT

    5  WHERE CID = (SELECT CID FROM COURSE WHERE CNAME='DBMS');


View created.


SQL> SELECT * FROM V5;


       PID PNAME            G        CID
---------- ---------------- - ----------
      1007 Krishna Mundada
      1009 MARY JANE        F        101


SQL> CREATE VIEW V6

  2  AS

  3  SELECT CID, COUNT(*)"STUDENT_COUNT"

  4  FROM PARTICIPANT

  5  GROUP BY CID;


View created.


SQL> SELECT * FROM V6;


CID        STUDENT_COUNT
---------- --------------
                        2
101                     2
106                     2


SQL> CREATE VIEW V7

  2  AS

  3  SELECT * FROM COURSE

  4  WHERE CREDIT < 4

  5  WITH CHECK OPTION;
```

```
View created.


SQL> SELECT * FROM V7;


CID CNAME      CREDIT

--- ------ ----------

102 ML            3

106 ITK           3


SQL> SELECT * FROM V7;


       CID CNAME              CREDIT

---------- --------------- ----------

       102 ML                       3

       106 ITK                      3


SQL> UPDATE V7

  2  SET CREDIT = 4

  3  WHERE CID = 102;

UPDATE V7

       *

ERROR at line 1:

ORA-01402: view WITH CHECK OPTION where-clause violation



SQL> UPDATE V7

  2  SET CREDIT = 2

  3  WHERE CID = 102;


1 row updated.


SQL> SELECT * FROM V7;


       CID CNAME              CREDIT
```

```
---------- -------------- ----------
       102 ML                      2
       106 ITK                     3


SQL> SELECT * FROM COURSE;


       CID CNAME              CREDIT
---------- -------------- ----------
       101 DBMS                    5
       104 MICROCONTROLLER         4
       102 ML                      2
       106 ITK                     3


SQL> -- HERE, WITH CHECK OPTION PROTECTS THE WHERE CLAUSE THAT WE USED TO
MAKE THE VIEW

SQL> -- THUS WE WERE ABLE TO UPDATE CREDIT TO 2 BUT NOT 4 AS IN WHERE
CLAUSE CREDIT < 4




SUPERVIEW_NAME
VARCHAR2(30)

 EDITIONING_VIEW
VARCHAR2(1)

 READ_ONLY
VARCHAR2(1)


SQL> SELECT VIEW_NAME FROM USER_VIEWS;


VIEW_NAME
----------------------
V4

V6

V7


SQL> SELECT INDEX_NAME, INDEX_TYPE FROM USER_INDEXES;
```

```
INDEX_NAME                     INDEX_TYPE

---------------------------    --------------------------

PK_EMP                         NORMAL

PK_DEPT                        NORMAL


SQL> SELECT ENAME
  2   FROM EMP
  3   WHERE ENAME='BLAKE';


ENAME
----------
BLAKE


SQL> SET AUTOTRACE ON
SQL> SELECT ENAME
  2   FROM EMP
  3   WHERE ENAME='BLAKE';


ENAME
----------
BLAKE
```

1) Display ename from emp table for employee BLAKE.(run this without index)

2) Create an index named emp_name on ename attribute of emp table.

SQL> create index emp_enme on emp(ename);

Index created.

3) Display ename from emp table for employee BLAKE.(run this query after index

is created on ename column).

4) Compare two query plan table displayed and write your analysis.

5) Create an index named e1 on sal and job attribute jointly.

6) SQL> desc user_indexes;

7) SQL> select index_name,index_type from user_indexes;

Execution Plan

Plan hash value: 3956160932

| Id | Operation | Name | Rows | Bytes | Cost (%CPU)| Time |

| 0 | SELECT STATEMENT | | 1 | 7 | 2   (0)| 00:00:01 |

|* 1 | TABLE ACCESS FULL | EMP | 1 | 7 | 2   (0)| 00:00:01 |

Predicate Information (identified by operation id):

----

   1 - filter("ENAME"='BLAKE')

Note

   - dynamic sampling used for this statement (level=2)

Statistics

----

          0 recursive calls

          0 db block gets

          4 consistent gets

          0 physical reads

          0 redo size

```
       526  bytes sent via SQL*Net to client

       523  bytes received via SQL*Net from client

         2  SQL*Net roundtrips to/from client

         0  sorts (memory)

         0  sorts (disk)

         1  rows processed


SQL> CREATE INDEX ENAME_INDEX ON EMP (ENAME);


Index created.


SQL> SELECT ENAME

  2  FROM EMP

  3  WHERE ENAME='BLAKE';


ENAME

----------

BLAKE



Execution Plan

----------------------------------------------------------

Plan hash value: 1442264639



---------------------------------------------------------------------------
-----

| Id  | Operation          | Name         | Rows  | Bytes | Cost (%CPU)| Time
|

---------------------------------------------------------------------------
-----

|   0 | SELECT STATEMENT |                  |     1 |     7 |     1   (0)|
00:00:01 |

|*  1 |   INDEX RANGE SCAN| ENAME_INDEX  |     1 |     7 |     1   (0)|
00:00:01 |

---------------------------------------------------------------------------
-----
```

Predicate Information (identified by operation id):
----

   1 - access("ENAME"='BLAKE')

Note

   - dynamic sampling used for this statement (level=2)

Statistics
----
          5 recursive calls
          0 db block gets
          8 consistent gets
          0 physical reads
          0 redo size
        526 bytes sent via SQL*Net to client
        523 bytes received via SQL*Net from client
          2 SQL*Net roundtrips to/from client
          0 sorts (memory)
          0 sorts (disk)
          1 rows processed

SQL> CREATE UNIQUE INDEX JOB_INDEX ON EMP (JOB);
CREATE UNIQUE INDEX JOB_INDEX ON EMP (JOB)
                               *
ERROR at line 1:
ORA-01452: cannot CREATE UNIQUE INDEX; duplicate keys found

SQL> CREATE UNIQUE INDEX DEPT_DNAME_INDEX ON DEPT (DNAME);

Index created.

```
SQL> SELECT * FROM DEPT;


    DEPTNO DNAME          LOC
---------- -------------- -------------
        10 ACCOUNTING     NEW YORK
        20 RESEARCH       DALLAS
        30 SALES          CHICAGO
        40 OPERATIONS     BOSTON


SQL> SELECT *
  2  FROM EMP
  3  WHERE ROWNUM = &NUM;
Enter value for num: 10
old   3: WHERE ROWNUM = &NUM
new   3: WHERE ROWNUM = 10


no rows selected

SQL> SELECT *
  2  FROM EMP
  3  WHERE ROWNUM < &NUM;
Enter value for num: 5
old   3: WHERE ROWNUM < &NUM
new   3: WHERE ROWNUM < 5


     EMPNO ENAME      JOB                       MGR HIREDATE         SAL
---------- ---------- ------------------ ---------- --------- ----------
      COMM     DEPTNO
---------- ----------
      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




    EMPNO ENAME        JOB                    MGR HIREDATE        SAL
---------- ---------- ------------------ ---------- --------- ----------
      COMM     DEPTNO
---------- ----------
        7566 JONES      MANAGER                    7839 02-APR-81       2975
                    20




SQL> SET LINESIZE 200

SQL> SELECT *

  2   FROM EMP

  3   WHERE ROWNUM < &NUM;

Enter value for num: 5

old   3: WHERE ROWNUM < &NUM

new   3: WHERE ROWNUM < 5


    EMPNO ENAME        JOB                    MGR HIREDATE        SAL
COMM     DEPTNO
---------- ---------- ------------------ ---------- --------- ---------- -
--------- ----------
        10     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


SQL> SELECT * FROM CAT;
```

```
TABLE_NAME                    TABLE_TYPE
----------------------------- ----------
-
DEPT                          TABLE
EMP                           TABLE


SQL> SELECT INDEX_NAME
  2  FROM USER_INDEX;
FROM USER_INDEX
     *
ERROR at line 2:
ORA-00942: table or view does not exist



SQL> SELECT INDEX_NAME
  2  FROM USER_INDEXES;


INDEX_NAME
-----------------------------
PK_EMP
ENAME_INDEX
EMP_COMP
PK_DEPT
DEPT_DNAME_INDEX


SQL> DROP INDEX EMP_COMP;


Index dropped.


SQL> SELECT INDEX_NAME  FROM USER_INDEXES;


INDEX_NAME
-----------------------------
PK_EMP
ENAME_INDEX
```

```
PK_DEPT

DEPT_DNAME_INDEX

SQL > CREATE BITMAP INDEX EMP_DEPTNO ON EMP(DEPTNO);


Index Created;

SQL> GRANT INSERT, SELECT, UPDATE, DELETE ON SCOTT.EMP TO MundadaKrishna;


Grant succeeded.


SQL> CONNECT MundadaKrishna/MundadaKrishna;
Connected.
SQL> SELECT * FROM EMP;
SELECT * FROM EMP
              *
ERROR at line 1:
ORA-00942: table or view does not exist


SQL> SELECT * FROM SCOTT.EMP;


    EMPNO ENAME      JOB                       MGR HIREDATE        SAL
---------- ---------- ------------------- ---------- --------- ----------
     COMM     DEPTNO
---------- ----------
     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
```

```
     EMPNO ENAME      JOB                       MGR HIREDATE        SAL
---------- ---------- ------------------ ---------- --------- ----------
      COMM     DEPTNO
---------- ----------
      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




     EMPNO ENAME      JOB                       MGR HIREDATE        SAL
---------- ---------- ------------------ ---------- --------- ----------
      COMM     DEPTNO
---------- ----------
      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




     EMPNO ENAME      JOB                       MGR HIREDATE        SAL
---------- ---------- ------------------ ---------- --------- ----------
      COMM     DEPTNO
---------- ----------
      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




      EMPNO ENAME      JOB                        MGR HIREDATE        SAL
---------- ---------- ------------------ ---------- --------- ----------
      COMM     DEPTNO
---------- ----------
      7900 JAMES      CLERK                     7698 03-DEC-81        950
                    30


      7934 MILLER     CLERK                     7782 23-JAN-82       1300
                    10



14 rows selected.

SQL> SET LINESIZE 200
SQL> SELECT * FROM SCOTT.EMP;

      EMPNO ENAME      JOB                        MGR HIREDATE        SAL
COMM     DEPTNO
---------- ---------- ------------------ ---------- --------- ---------- -
--------- ----------
      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

SQL> SELECT * FROM SCOTT.DEPT
  2  ;


    DEPTNO DNAME          LOC
---------- -------------- ------------
-
        10 ACCOUNTING     NEW YORK
        20 RESEARCH       DALLAS
        30 SALES          CHICAGO
        40 OPERATIONS
BOSTON


SQL> SPOOL OFF
```