EXP-1

CREATING TABLE STUDENT :-

```
CSE_LE@234G5A0512>CREATE TABLE STUDENT(STU_ID NUMBER,STU_NAME VARCHAR2(20));

Table created.

CSE_LE@234G5A0512>
```

ALTER TABLE STUDENT :-

```
CSE_LE@234G5A0512>ALTER TABLE student ADD st_city VARCHAR2(30);

Table altered.

CSE_LE@234G5A0512>DESC student;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------
--
 STU_ID                                             NUMBER
 STU_NAME                                           VARCHAR2(20)
 ST_CITY                                            VARCHAR2(30)

CSE_LE@234G5A0512>
```


```
CSE_LE@234G5A0512>ALTER TABLE student ADD st_city VARCHAR2(30);

Table altered.

CSE_LE@234G5A0512>DESC student;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------
--
 STU_ID                                             NUMBER
 STU_NAME                                           VARCHAR2(20)
 ST_CITY                                            VARCHAR2(30)

CSE_LE@234G5A0512>
```

```
CSE_LE@234G5A0512>ALTER TABLE student DROP COLUMN st_city;

Table altered.

CSE_LE@234G5A0512>DESC student;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------
--
 STU_ID                                             NUMBER
 STU_NAME                                           VARCHAR2(20)

CSE_LE@234G5A0512>
```

TRUNCATE TABLE :-

```
CSE_LE@234G5A0512>ALTER TABLE student DROP COLUMN st_city;

Table altered.

CSE_LE@234G5A0512>DESC student;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------
--
 STU_ID                                             NUMBER
 STU_NAME                                           VARCHAR2(20)

CSE_LE@234G5A0512>
```

DROP TABLE :-

```
CSE_LE@234G5A0512>SELECT * FROM student;

no rows selected

CSE_LE@234G5A0512>DROP TABLE student;

Table dropped.

CSE_LE@234G5A0512>SELECT * FROM student;
SELECT * FROM student
              *
ERROR at line 1:
ORA-00942: table or view does not exist
```

EXP-2

CREATING TABLE STUDENT :-

```
CSE_LE@234G5A0512>CREATE TABLE STUDENT(STU_ID NUMBER PRIMARY KEY,STU_NAME VARC
HAR2(20));

Table created.

CSE_LE@234G5A0512>
```

INSERTING VALUES :-

```
CSE_LE@234G5A0512>INSERT INTO student VALUES(&ID,'&NAME');
Enter value for id: 512
Enter value for name: Ranjith
old   1: INSERT INTO student VALUES(&ID,'&NAME')
new   1: INSERT INTO student VALUES(512,'Ranjith')

1 row created.

CSE_LE@234G5A0512>/
Enter value for id: 514
Enter value for name: Sreekanth
old   1: INSERT INTO student VALUES(&ID,'&NAME')
new   1: INSERT INTO student VALUES(514,'Sreekanth')

1 row created.

CSE_LE@234G5A0512>SELECT * FROM student;

    STU_ID STU_NAME
---------- --------------------
       512 Ranjith
       514 Sreekanth

CSE_LE@234G5A0512>
```

UPDATE COMMAND :-

```
CSE_LE@234G5A0512>UPDATE student SET STU_NAME='ESWAR' WHERE stu_id=514;

1 row updated.

CSE_LE@234G5A0512>SELECT * FROM student;

    STU_ID STU_NAME
---------- --------------------
       512 Ranjith
       514 ESWAR
```

DELETE COMMAND :-

```
CSE_LE@234G5A0512>UPDATE student SET STU_NAME='ESWAR' WHERE stu_id=514;

1 row updated.

CSE_LE@234G5A0512>SELECT * FROM student;

    STU_ID STU_NAME
---------- --------------------
       512 Ranjith
       514 ESWAR
```

SELECT COMMAND :-

```
CSE_LE@234G5A0512>SELECT stu_id FROM student;

    STU_ID
----------
       512
```

```
CSE_LE@234G5A0512>SELECT * FROM student;

    STU_ID STU_NAME
---------- --------------------
       512 Ranjith

CSE_LE@234G5A0512>
```

EXP-3

CREATING TABLE :-

```
CSE_LE@234G5A0512>CREATE TABLE dept(dept_name VARCHAR2(20),building VARCHAR2(1
5),budget NUMBER(12,2));

Table created.

CSE_LE@234G5A0512>
```

CREATING VIEW :-

```
CSE_LE@234G5A0512>CREATE VIEW dept_view AS SELECT dept_name,budget FROM dept;

View created.

CSE_LE@234G5A0512>SELECT * FROM dept_view;

DEPT_NAME               BUDGET
-------------------- ----------
CSE                     760000
CSM                     560000
CSD                     860000
```

INSRTING VALUES :-

```
CSE_LE@234G5A0512>INSERT INTO dept VALUES('ECE','A_BLOCK',660000);

1 row created.

CSE_LE@234G5A0512>SELECT * FROM dept_view;

DEPT_NAME               BUDGET
-------------------- ----------
CSE                     760000
CSM                     560000
CSD                     860000
ECE                     660000
```

UPDATE VIEW :-

```
CSE_LE@234G5A0512>UPDATE dept_view SET budget=budget*1.5;

4 rows updated.

CSE_LE@234G5A0512>SELECT * FROM dept_view;

DEPT_NAME                BUDGET
-------------------- ----------
CSE                     1140000
CSM                      840000
CSD                     1290000
ECE                      990000
```

DELETE COMMAND :-

```
CSE_LE@234G5A0512>DELETE FROM dept_view WHERE dept_name='ECE';

1 row deleted.

CSE_LE@234G5A0512>SELECT * FROM dept_view;

DEPT_NAME                BUDGET
-------------------- ----------
CSE                     1140000
CSM                      840000
CSD                     1290000
```

DROP COMMAND :-

```
CSE_LE@234G5A0512>DROP VIEW dept_view;

View dropped.

CSE_LE@234G5A0512>SELECT * FROM dept_view;
SELECT * FROM dept_view
              *
ERROR at line 1:
ORA-00942: table or view does not exist
```

EXP-5

CREATING TABLE :-

```
CSE_LE@234G5A0512>CREATE TABLE instructor (
  2         id VARCHAR2(20) PRIMARY KEY,
  3           name VARCHAR2(50),
  4           dept_name VARCHAR2(20),
  5          salary NUMBER
  6        );

Table created.
```

IS NULL COMMAND :-

```
CSE_LE@234G5A0512>SELECT * FROM instructor WHERE salary IS NULL;

ID                   NAME
-------------------- ----------------------------------------------------
DEPT_NAME                SALARY
-------------------- ----------
4                    Peter
CSM

5                    Yesh
```

IS NOT NULL :-

```
CSE_LE@234G5A0512>SELECT * FROM instructor WHERE dept_name IS NOT NULL;

ID                   NAME                                               DEPT_NAME                SALARY
-------------------- -------------------------------------------------- -------------------- ----------
1                    John                                               CSE                       35000
2                    Mick                                               CSE                       35000
3                    Jessi                                              ECE                       25000
4                    Peter                                              CSM

CSE_LE@234G5A0512>
```

BETWEEN COMMAND :-

```
CSE_LE@234G5A0512>SELECT * FROM instructor WHERE salary BETWEEN 30000 AND 40000;

ID                   NAME                                               DEPT_NAME              SALARY
-------------------- -------------------------------------------------- -------------------- ----------
1                    John                                               CSE
                   40000
2                    Mick                                               CSE
                   40000
3                    Jessi                                              ECE
                   30000
```

LIKE COMMAND :-

```
CSE_LE@234G5A0512>SELECT * FROM instructor WHERE name LIKE 'M%';

ID                   NAME                                               DEPT_NAME             SALARY
-------------------- -------------------------------------------------- -------------------- ----------
2                    Mick                                               CSE
                   40000

CSE_LE@234G5A0512>
```

```
CSE_LE@234G5A0512>SELECT * FROM instructor WHERE name LIKE '%ess%';

ID                   NAME                                               DEPT_NAME             SALARY
-------------------- -------------------------------------------------- -------------------- ----------
3                    Jessi                                              ECE
                   30000
```

IN COMMAND :-

```
CSE_LE@234G5A0512>SELECT * FROM instructor WHERE dept_name IN ('CSE', 'ECE');

ID                   NAME                                               DEPT_NAME             SALARY
-------------------- -------------------------------------------------- -------------------- ----------
1                    John                                               CSE
                   40000
2                    Mick                                               CSE
                   40000
3                    Jessi                                              ECE
                   30000
```

NOT IN :-

```
CSE_LE@234G5A0512>SELECT * FROM instructor WHERE dept_name NOT IN ('CSE', 'ECE');

ID                   NAME                                               DEPT_NAME             SALARY
-------------------- -------------------------------------------------- -------------------- ----------
4                    Peter                                              CSM
```

EXISTS :-

```
CSE_LE@234G5A0512>SELECT * FROM instructor i1 WHERE EXISTS (
  2      SELECT 1 FROM instructor i2 WHERE i1.dept_name = i2.dept_name AND i1.id <> i2.id
  3  );

ID                   NAME                                               DEPT_NAME             SALARY
-------------------- -------------------------------------------------- -------------------- ----------
2                    Mick                                               CSE
                   40000
1                    John                                               CSE
                   40000
```

EXP-6

CREATING TABLE :-

```
CSE_LE@234G5A0512>CREATE TABLE student (
  2       rollno VARCHAR2(20) PRIMARY KEY,
  3       name VARCHAR2(50),
  4       dept VARCHAR2(20)
  5   );

Table created.
```

```
CSE_LE@234G5A0512>CREATE TABLE marks (
  2       rollno VARCHAR2(20),
  3       marks NUMBER,
  4       PRIMARY KEY (rollno)
  5   );

Table created.
```

INNER JOIN :-

```
CSE_LE@234G5A0512>SELECT s.rollno, s.name, s.dept, m.marks
  2  FROM student s
  3  INNER JOIN marks m ON s.rollno = m.rollno;

ROLLNO               NAME                                               DEPT
                   MARKS
-------------------- -------------------------------------------------- -------------------- ----------
1                    Yash                                               CSE
                     98
2                    Peter                                              CSM
                     88
3                    Krish                                              ECE
                     95
```

LEFT OUTER JOIN :-

```
CSE_LE@234G5A0512>SELECT s.rollno, s.name, s.dept, m.marks
  2  FROM student s
  3  LEFT OUTER JOIN marks m ON s.rollno = m.rollno;

ROLLNO               NAME                                               DEPT
                   MARKS
-------------------- -------------------------------------------------- -------------------- ----------
1                    Yash                                               CSE
                     98
2                    Peter                                              CSM
                     88
3                    Krish                                              ECE
                     95
```

RIGHT OUTER JOIN :-

```
CSE_LE@234G5A0512>SELECT s.rollno, s.name, s.dept, m.marks
  2  FROM student s
  3  RIGHT OUTER JOIN marks m ON s.rollno = m.rollno;

ROLLNO              NAME                                               DEPT
                  MARKS
------------------- -------------------------------------------------- -------------------- ----------
1                   Yash                                               CSE
                    98
2                   Peter                                              CSM
                    88
3                   Krish                                              ECE
                    95
```

EXP-7

CREATING TABLE :-

```
CSE_LE@234G5A0512>CREATE TABLE employee (
  2       id VARCHAR2(20) PRIMARY KEY,
  3       name VARCHAR2(50),
  4       salary NUMBER
  5   );

Table created.
```

AVEREGE :-

```
CSE_LE@234G5A0512>SELECT * FROM employee;

ID                  NAME                                                SALARY
------------------- -------------------------------------------------- ----------
1                   Peter                                                20000
2                   Jack                                                 40000
3                   Parker                                               68000
4                   John                                                  9000
5                   Jessy                                                75000

CSE_LE@234G5A0512>SELECT AVG(salary) AS average_salary FROM employee;

AVERAGE_SALARY
--------------
         42400
```

MIN :-

```
CSE_LE@234G5A0512>SELECT * FROM employee;

ID                   NAME                                                SALARY
-------------------- -------------------------------------------------- ----------
1                    Peter                                                20000
2                    Jack                                                 40000
3                    Parker                                               68000
4                    John                                                  9000
5                    Jessy                                                75000

CSE_LE@234G5A0512>SELECT MIN(salary) AS min_salary FROM employee;

MIN_SALARY
----------
      9000
```

MAX :-

```
CSE_LE@234G5A0512>SELECT * FROM employee;

ID                   NAME                                                SALARY
-------------------- -------------------------------------------------- ----------
1                    Peter                                                20000
2                    Jack                                                 40000
3                    Parker                                               68000
4                    John                                                  9000
5                    Jessy                                                75000

CSE_LE@234G5A0512>SELECT MAX(salary) AS max_salary FROM employee;

MAX_SALARY
----------
     75000
```

COUNT :-

```
CSE_LE@234G5A0512>SELECT * FROM employee;

ID                   NAME                                                SALARY
-------------------- -------------------------------------------------- ----------
1                    Peter                                                20000
2                    Jack                                                 40000
3                    Parker                                               68000
4                    John                                                  9000
5                    Jessy                                                75000

CSE_LE@234G5A0512>SELECT COUNT(*) AS record_count FROM employee;

RECORD_COUNT
------------
           5
```

SUM :-

```
CSE_LE@234G5A0512>SELECT * FROM employee;

ID                   NAME                                               SALARY
-------------------- -------------------------------------------------- ----------
1                    Peter                                               20000
2                    Jack                                                40000
3                    Parker                                              68000
4                    John                                                 9000
5                    Jessy                                               75000

CSE_LE@234G5A0512>SELECT SUM(salary) AS total_salary FROM employee;

TOTAL_SALARY
------------
      212000
```

EXP-10

PROGRAM :-

```
CSE_LE@234G5A0512>DECLARE
  2  fac NUMBER :=1;
  3  n NUMBER :=4;
  4  BEGIN
  5  WHILE n>0 LOOP
  6  fac:=n*fac;
  7  n:=n-1;
  8  END LOOP;
  9  DBMS_OUTPUT.PUT_LINE(FAC);
 10  END;
 11  /
24

PL/SQL procedure successfully completed.
```

EXP-11

PROGRAM :-

```
CSE_LE@234G5A0512>DECLARE
  2  n NUMBER;
  3  i NUMBER;
  4  temp NUMBER;
  5  BEGIN
  6  n := 13;
  7  i := 2;
  8  temp := 1;
  9  FOR i IN 2..n/2
 10  LOOP
 11  IF MOD(n, i) = 0
 12  THEN
 13  temp := 0;
 14  EXIT;
 15  END IF;
 16  END LOOP;
 17  IF temp = 1
 18  THEN
 19  DBMS_OUTPUT.PUT_LINE(n||' is a prime number');
 20  ELSE
 21  DBMS_OUTPUT.PUT_LINE(n||' is not a prime number');
 22  END IF;
 23  END;
 24  /
13 is a prime number

PL/SQL procedure successfully completed.
```

EXP-12

PROGRAM :-

```
CSE_LE@234G5A0512>DECLARE
  2  FIRST NUMBER := 0;
  3  SECOND NUMBER := 1;
  4  TEMP NUMBER;
  5  N NUMBER := 5;
  6  I NUMBER;
  7  BEGIN
  8  DBMS_OUTPUT.PUT_LINE('SERIES:');
  9  DBMS_OUTPUT.PUT_LINE(FIRST);
 10  DBMS_OUTPUT.PUT_LINE(SECOND);
 11  FOR I IN 2..N
 12  LOOP
 13  TEMP:=FIRST+SECOND;
 14  FIRST := SECOND;
 15  SECOND := TEMP;
 16  DBMS_OUTPUT.PUT_LINE(TEMP);
 17  END LOOP;
 18  END;
 19  /
SERIES:
0
1
1
2
3
5

PL/SQL procedure successfully completed.
```

EXP-13

CREATING TABLE AND INSERTING USER :-

```
CSE_LE@234G5A0512>CREATE TABLE WATERMAN(ID NUMBER(10) PRIMARY KEY,NAME VARCHAR
2(100));

Table created.

CSE_LE@234G5A0512>CREATE OR REPLACE PROCEDURE INSERTUSER
  2  (ID IN NUMBER,
  3  NAME IN VARCHAR2)
  4  IS
  5  BEGIN
  6  INSERT INTO WATERMAN VALUES(ID,NAME);
  7  DBMS_OUTPUT.PUT_LINE('RECORD INSERTED SUCCESSFULLY');
  8  END;
  9  /

Procedure created.
```

PROGRAM :-

```
CSE_LE@234G5A0512>DECLARE
  2  CNT NUMBER;
  3  BEGIN
  4  INSERTUSER(101,'NARASIMHA');
  5  SELECT COUNT(*) INTO CNT FROM SAILOR;
  6  DBMS_OUTPUT.PUT_LINE(CNT||' RECORD IS INSERTED SUCCESSFULLY');
  7  END;
  8  /
RECORD INSERTED SUCCESSFULLY
1 RECORD IS INSERTED SUCCESSFULLY

PL/SQL procedure successfully completed.
```

EXP-14

CREATING FUNCTION :-

```
CSE_LE@234G5A0512>CREATE FUNCTION fact(x number)
  2  RETURN number
  3  IS
  4  f number;
  5  BEGIN
  6  IF x=0 THEN
  7  f := 1;
  8  ELSE
  9  f := x * fact(x-1);
 10  END IF;
 11  RETURN f;
 12  END;
 13  /

Function created.
```

PROGRAM :-

```
CSE_LE@234G5A0512>DECLARE
  2  num number;
  3  factorial number;
  4  BEGIN
  5  num:= 6;
  6  factorial := fact(num);
  7  dbms_output.put_line(' Factorial '|| num || ' is ' || factorial);
  8  END;
  9  /
Factorial 6 is 720
```

DROP FUNCTION :-

```
CSE_LE@234G5A0512>DROP FUNCTION fact;

Function dropped.
```

EXP-15

CREATING TABLE :-

```
CSE_LE@234G5A0512>CREATE TABLE INSTRUCTORS
  2  (ID VARCHAR2(5),
  3  NAME VARCHAR2(20) NOT NULL,
  4  DEPT_NAME VARCHAR2(20),
  5  SALARY NUMERIC(8,2) CHECK (SALARY > 29000)
  6  );

Table created.
```

CREATING TRIGGER :-

```
CSE_LE@234G5A0512>CREATE OR REPLACE TRIGGER display_salary_changes
  2  BEFORE UPDATE ON instructor
  3  FOR EACH ROW
  4  WHEN (NEW.ID = OLD.ID)
  5  DECLARE
  6  sal_diff number;
  7  BEGIN
  8  sal_diff := :NEW.salary - :OLD.salary;
  9  dbms_output.put_line('Old salary: ' || :OLD.salary);
 10  dbms_output.put_line('New salary: ' || :NEW.salary);
 11  dbms_output.put_line('Salary difference: ' || sal_diff);
 12  END;
 13  /

Trigger created.
```

PROGRAM :-

```
CSE_LE@234G5A0512>
CSE_LE@234G5A0512>DECLARE
  2  total_rows number(2);
  3  BEGIN
  4  UPDATE instructor
  5  SET salary = salary + 5000;
  6  IF sql%notfound THEN
  7  dbms_output.put_line('no instructors updated');
  8  ELSIF sql%found THEN
  9  total_rows := sql%rowcount;
 10  dbms_output.put_line( total_rows || ' instructors updated ');
 11  END IF;
 12  END;
 13  /
Old salary: 45000
New salary: 50000
Salary difference: 5000
Old salary: 45000
New salary: 50000
Salary difference: 5000
Old salary: 35000
New salary: 40000
Salary difference: 5000
Old salary:
New salary:
Salary difference:
Old salary:
New salary:
Salary difference:
Old salary: 70000
New salary: 75000
Salary difference: 5000
Old salary: 95000
New salary: 100000
Salary difference: 5000
Old salary: 45000
```

EXP-16

CREATING TABLE :-

```
CSE_LE@234G5A0512>CREATE TABLE customers(
  2  ID NUMBER PRIMARY KEY,
  3  NAME VARCHAR2(20) NOT NULL,
  4  AGE NUMBER,
  5  ADDRESS VARCHAR2(20),
  6  SALARY NUMERIC(20,2));

Table created.
```

PROGRAM :-

```
CSE_LE@234G5A0512>DECLARE
  2  c_id customers.id%type;
  3  c_name customers.name%type;
  4  c_addr customers.address%type;
  5  CURSOR c_customers is
  6  SELECT id, name, address FROM customers;
  7  BEGIN
  8  OPEN c_customers;
  9  LOOP
 10  FETCH c_customers into c_id, c_name, c_addr;
 11  EXIT WHEN c_customers%notfound;
 12  dbms_output.put_line(c_id || ' ' || c_name || ' ' || c_addr);
 13  END LOOP;
 14  CLOSE c_customers;
 15  END;
 16  /
1 Ramesh Allabad
2 Suresh Kanpur
3 Mahesh Ghaziabad
4 chandhan Noida
5 Alex paris
6 Sunita delhi

PL/SQL procedure successfully completed.
```

EXP-4

CREATING TABLES :-

```
CSE_LE@234G5A0512>CREATE TABLE instructor(
  2      ins_id NUMBER(10) PRIMARY KEY,
  3      ins_name VARCHAR2(25) NOT NULL,
  4     dep_name VARCHAR2(10) NOT NULL,
  5      salary NUMBER(10,0)
  6    );

Table created.
```

```
CSE_LE@234G5A0512>CREATE TABLE departments(
  2      dep_id NUMBER(10) PRIMARY KEY,
  3      dep_name VARCHAR2(10) NOT NULL,
  4      building VARCHAR2(10) NOT NULL,
  5      budget NUMBER(10)
  6      );

Table created.
```

SELECTING :-

```
CSE_LE@234G5A0512>SELECT * FROM INSTRUCTOR;

    INS_ID INS_NAME                   DEP_NAME       SALARY
---------- ------------------------- ---------- ----------
         1 Suresh                    cse             40000
         2 Mahesh                    csd             37000
         3 Aravind                   csm             20000
         4 Jagadeesh                 cse             50000
         5 Raju                      physics         20000
         6 Somesh                    EEE             30000
         7 Ravi                      civil           35000

7 rows selected.
```

```
CSE_LE@234G5A0512>SELECT * FROM departments;

    DEP_ID DEP_NAME   BUILDING       BUDGET
---------- ---------- ---------- ----------
         1 cse        gandhi        3500000
         2 csm        b_block       1000000
         3 ECE        d_block       1500000
         4 EEE        c_block       2000000
```

UNION :-

```
CSE_LE@234G5A0512>SELECT dep_name FROM instructor
  2      UNION
  3     SELECT dep_name FROM departments;

DEP_NAME
----------
ECE
EEE
civil
csd
cse
csm
physics

7 rows selected.
```

UNION ALL :-

```
CSE_LE@234G5A0512>SELECT dep_name FROM instructor
  2     UNION ALL
  3     SELECT dep_name FROM departments;

DEP_NAME
----------
cse
csd
csm
cse
physics
EEE
civil
cse
csm
ECE
EEE

11 rows selected.
```

INTERSECT :-

```
CSE_LE@234G5A0512>SELECT dep_name FROM instructor
  2      INTERSECT
  3     SELECT dep_name FROM departments;

DEP_NAME
----------
EEE
cse
csm
```

MINUS :-

```
CSE_LE@234G5A0512>SELECT dep_name FROM instructor
  2      MINUS
  3    SELECT dep_name FROM departments;

DEP_NAME
----------
civil
csd
physics

CSE_LE@234G5A0512>SELECT dep_name FROM departments
  2    MINUS
  3    SELECT dep_name FROM instructor;

DEP_NAME
----------
ECE
```

CROSS JOIN :-

```
CSE_LE@234G5A0512>SELECT i.ins_name,d.dep_name,d.budget FROM instructor i CROS
S JOIN departments d;

INS_NAME                  DEP_NAME       BUDGET
------------------------- ---------- ----------
Suresh                    cse           3500000
Mahesh                    cse           3500000
Aravind                   cse           3500000
Jagadeesh                 cse           3500000
Raju                      cse           3500000
Somesh                    cse           3500000
Ravi                      cse           3500000
Suresh                    csm           1000000
Mahesh                    csm           1000000
Aravind                   csm           1000000
Jagadeesh                 csm           1000000

INS_NAME                  DEP_NAME       BUDGET
------------------------- ---------- ----------
Raju                      csm           1000000
Somesh                    csm           1000000
Ravi                      csm           1000000
Suresh                    ECE           1500000
Mahesh                    ECE           1500000
Aravind                   ECE           1500000
Jagadeesh                 ECE           1500000
Raju                      ECE           1500000
Somesh                    ECE           1500000
Ravi                      ECE           1500000
Suresh                    EEE           2000000
```

```
INS_NAME                    DEP_NAME       BUDGET
--------------------------- ---------- ----------
Mahesh                      EEE           2000000
Aravind                     EEE           2000000
Jagadeesh                   EEE           2000000
Raju                        EEE           2000000
Somesh                      EEE           2000000
Ravi                        EEE           2000000

28 rows selected.
```

NATURAL JOIN :-

```
CSE_LE@234G5A0512>SELECT i.ins_name,dep_name,d.budget FROM instructor i NATURA
L JOIN departments d;

INS_NAME                 DEP_NAME       BUDGET
------------------------ ---------- ----------
Suresh                   cse           3500000
Aravind                  csm           1000000
Jagadeesh                cse           3500000
Somesh                   EEE           2000000
```

EXP-8

CREATING TABLE :-

```
CSE_LE@234G5A0512>CREATE TABLE names(
  2      first_name VARCHAR2(30
  3      ) NOT NULL,
  4      LAST_name VARCHAR2(30) NOT NULL
  5    );

Table created.
```

LOWER :-

```
CSE_LE@234G5A0512>SELECT LOWER(first_name) FROM names;

LOWER(FIRST_NAME)
------------------------------
antony
mark
stuart
rakesh
```

UPPER :-

```
CSE_LE@234G5A0512>SELECT UPPER(first_name) FROM names;

UPPER(FIRST_NAME)
------------------------------
ANTONY
MARK
STUART
RAKESH
```

INITCAP :-

```
CSE_LE@234G5A0512>SELECT INITCAP(first_name) FROM names;

INITCAP(FIRST_NAME)
------------------------------
Antony
Mark
Stuart
Rakesh
```

SUBSTR :-

```
CSE_LE@234G5A0512>SELECT SUBSTR(first_name,1,4) FROM names;

SUBS
----
Anto
Mark
Stua
Rake
```

CONTACT :-

```
CSE_LE@234G5A0512>SELECT CONCAT(first_name,last_name) FROM names;

CONCAT(FIRST_NAME,LAST_NAME)
------------------------------------------------------------
AntonyRobert
MarkAntony
StuartSmart
Rakeshk
```

LENGTH :-

```
CSE_LE@234G5A0512>SELECT LENGTH(first_name) FROM names;

LENGTH(FIRST_NAME)
------------------
                 6
                 4
                 6
                 6
```

INSTR :-

```
CSE_LE@234G5A0512>SELECT INSTR(first_name,'Ma') FROM names;

INSTR(FIRST_NAME,'MA')
----------------------
                     0
                     1
                     0
                     0
```

TRIM :-

```
CSE_LE@234G5A0512>SELECT TRIM(' ' FROM first_name) FROM names;

TRIM(''FROMFIRST_NAME)
------------------------------
Antony
Mark
Stuart
Rakesh
```

ROUND :-

```
CSE_LE@234G5A0512>SELECT ROUND(11.111,2) FROM dual;

ROUND(11.111,2)
---------------
          11.11
```

MOD :-

```
CSE_LE@234G5A0512>SELECT MOD(11,2) FROM dual;

 MOD(11,2)
----------
         1
```

SYSDATE :-

```
CSE_LE@234G5A0512>SELECT SYSDATE FROM dual;

SYSDATE
---------
07-JAN-24
```

BETWEEN :-

```
CSE_LE@234G5A0512>SELECT MONTHS_BETWEEN(SYSDATE,'08-DEC-2024') FROM dual;

MONTHS_BETWEEN(SYSDATE,'08-DEC-2024')
-------------------------------------
                           -11.001449
```

NEXT-DAY :-

```
CSE_LE@234G5A0512>SELECT NEXT_DAY(SYSDATE,'MONDAY') FROM dual;

NEXT_DAY(
---------
08-JAN-24
```

LAST DAY :-

```
CSE_LE@234G5A0512>SELECT LAST_DAY(SYSDATE) FROM dual;

LAST_DAY(
---------
31-JAN-24
```

CURRENT-TIMESTAMP :-

```
CSE_LE@234G5A0512>SELECT CURRENT_TIMESTAMP(3) FROM dual;

CURRENT_TIMESTAMP(3)
---------------------------------------------------------------------------
07-JAN-24 10.55.47.569 PM +05:30

CSE_LE@234G5A0512>
```

EXP-9

CREATING TABLE :-

```
CSE_LE@234G5A0512>CREATE TABLE department (
  2      department_id VARCHAR2(20) PRIMARY KEY,
  3      department_name VARCHAR2(50)
  4  );

Table created.
```

PRIMARY KEY:-

```
CSE_LE@234G5A0512> CREATE TABLE employees (
  2      id VARCHAR2(20) PRIMARY KEY,
  3      name VARCHAR2(50),
  4      department_id VARCHAR2(20),
  5      CONSTRAINT fk_employee_department
  6          FOREIGN KEY (department_id)
  7          REFERENCES department(department_id),
  8      CONSTRAINT chk_employee_id
  9          CHECK (SUBSTR(id, 1, 1) = 'E')
 10  );

Table created.
```

```
CSE_LE@234G5A0512>CREATE TABLE employee2 (
  2       id VARCHAR2(20) PRIMARY KEY,
  3       name VARCHAR2(50) DEFAULT 'John Doe',
  4       department_id VARCHAR2(20) DEFAULT 'default_department'
  5   );

Table created.
```