Lab cycle 2

1) Write a PL/SQL code to accept the text and reverse the given text. Check the text is palindrome or not

Code:

```
DECLARE
  s VARCHAR2(10) := 'malayalam';
  l VARCHAR2(20);
  t
VARCHAR2(10);
BEGIN
  FOR i IN REVERSE 1..Length(s) LOOP
    l := Substr(s, i, 1);
    t := t ||''||l;
  END LOOP;

  IF t = s THEN
   dbms_output.Put_line(t ||''||' is palindrome');
  ELSE
   dbms_output.Put_line(t ||''||' is not palindrome');
  END IF;
END;
```

Output:

2) Write a program to read two numbers; If the first no > 2nd no, then swap the numbers; if the first number is an odd number, then find its cube; if first no < 2nd no then raise it to its power; if both the numbers are equal, then find its sqrt.

Code:

```
DECLARE
  a INTEGER :=5;
  b INTEGER :=4;
  temp
  INTEGER:=0; c
  INTEGER;
  d INTEGER :=2;
  cube
INTEGER;
BEGIN
   IF a > b THEN
    temp
    :=a; a
    :=b;
    b := temp;
    DBMS_OUTPUT.PUT_LINE('After the swapping the a value is '||a ||' and b value is '||b);
    IF MOD(b,d) !=0 THEN
     cube :=a* a * a;
    DBMS_OUTPUT.PUT_LINE('cube of a
    is:'||cube); ELSE
```

```
      DBMS_OUTPUT.PUT_LINE('The first number is
    even:'); END IF;
  ELSIF a < b THEN
    c :=a **b;
    DBMS_OUTPUT.PUT_LINE('power
    is:'||c);
 ELSIF a =b THEN
   DBMS_OUTPUT.PUT_LINE('sqare root of a
   is:'||(SQRT(a))); DBMS_OUTPUT.PUT_LINE('sqare
   root of b is:'||(SQRT(b)));
 END
IF;
END;
```

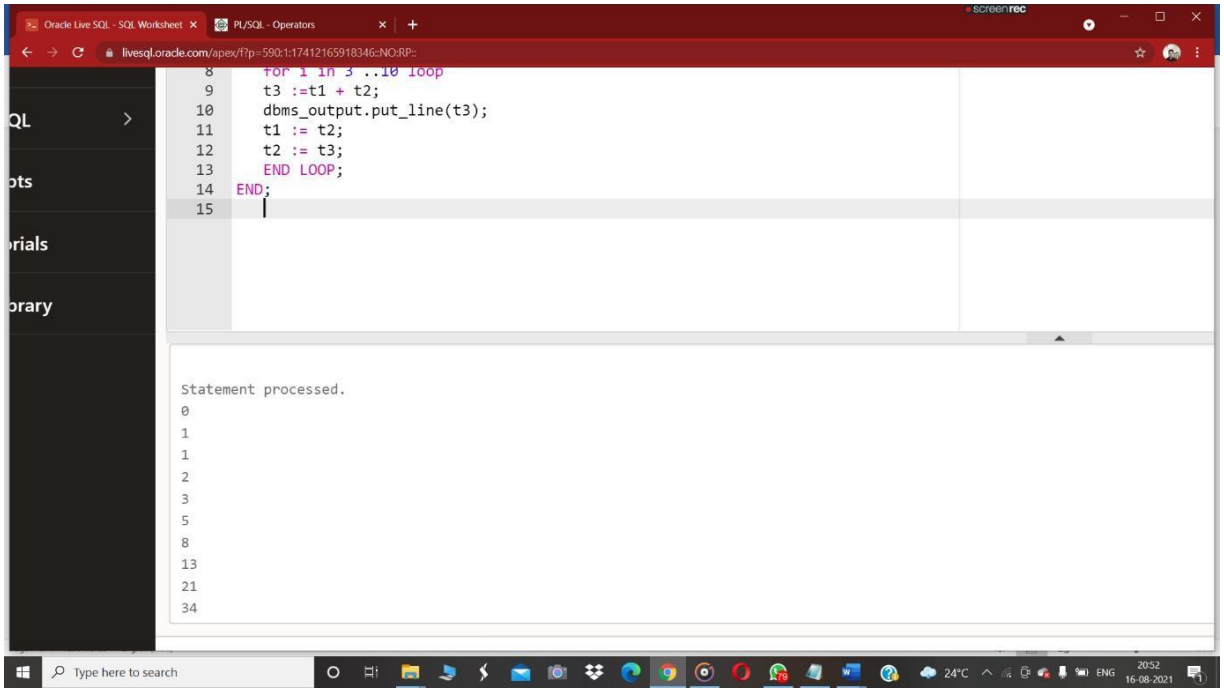
Output:

```
Statement processed.
After the swapping the a value is 4 and b value is 5
cube of a is:64
```

3) Write a program to generate first 10 terms of the Fibonacci series.

```
Code:
DECLARE
   t1 NUMBER :=0;
   t2 NUMBER :=1;
   t3 NUMBER ;
BEGIN
   dbms_output.put_line(t1);
   dbms_output.put_line(t2);
   for i in 3 ..10 loop
   t3 :=t1 + t2;
   dbms_output.put_line(t3);
   t1 := t2;
   t2 := t3;
   END LOOP;
END;
```

Output:



4) Write a PL/SQL program to find the salary of an employee in the EMP table (Get the empno from the user). Find the employee drawing minimum salary. If the minimum salary is less than 7500, then give an increment of 15%. Also create an emp %rowtype record. Accept the empno from the user, and display all the information about the employee.

PL/SQL CODE:

```
create table EMP(emp_no int primary key,emp_name
varchar(20),salary int); insert into EMP values(101,'arun',50000);
insert into EMP
values(102,'arun',6500); insert into
EMP values(103,'arun',7500);


DECLARE
  emp1
  EMP%rowtype; sal
  EMP.salary%type;
BEGIN
  SELECT salary INTO sal FROM EMP WHERE
  emp_no = 102; IF sal <= 7500 THEN
```

```
 UPDATE EMP SET salary = salary+salary* 15/100 WHERE
emp_no = 102; ELSE
 DBMS_OUTPUT.PUT_LINE ('NO
INCREMENT'); END IF;
SELECT * into emp1 FROM EMP WHERE emp_no = 102;
DBMS_OUTPUT.PUT_LINE ('Name: '||emp1.emp_name);
DBMS_OUTPUT.PUT_LINE ('employee number:
'||emp1.emp_no); DBMS_OUTPUT.PUT_LINE ('salary: '||
emp1.salary);
END;
```

OUTPUT:

```
Statement processed.
Name: arun
employee number: 102
salary: 8596
```

5) Write a PL/SQL **function** to find the total strength of students present in different classes of the MCA department using the table Class(ClassId, ClassName, Strength);

Table creation And insertion

```
create table class(cls_id varchar(20),cls_name
varchar(20),Strength int); insert into class
values('MCA21','S2A',59);
insert into class
values('MCA21','S2B',58); insert into
class values('MCA20','S5A',40); insert
into class values('MCA20','S5B',34);
```

function code:

```
CREATE OR REPLACE FUNCTION
 findTotalStrength RETURN NUMBER IS
 s_count
 NUMBER(20):=0;
 BEGIN
```

```
  SELECT sum(strength) INTO s_count
FROM class; RETURN (s_count);
END;
```

Function Output:

Function created.

Function call

```
DECLARE
 c
NUMBER(5):=0;
BEGIN
 C:= findTotalStrength();
 DBMS_OUTPUT.PUT_LINE('Totel students in mca department
is:'||c); END;
```

Output:

Statement processed.

Totel students in mca department is:191

6) Write a PL/SQL **procedure** to increase the salary for the specified employee. Using empno in the employee table based on the following criteria: increase the salary by 5% for clerks, 7% for salesman, 10% for analyst and 20 % for manager. Activate using PL/SQL block.

procedure code

```
CREATE OR REPLACE PROCEDURE
increSalary IS
```

```
emp1
emp%rowtype; sal
emp.salary%type;
dpt
emp.emp_dpt%type;
BEGIN
SELECT salary,emp_dpt INTO sal,dpt FROM emp WHERE
  emp_no = 104; IF dpt ='clerk' THEN
    UPDATE emp SET salary = salary+salary*
  5/100 ; ELSIF dpt = 'salesman' THEN
    UPDATE emp SET salary = salary+salary*
  7/100 ; ELSIF dpt = 'analyst' THEN
    UPDATE emp SET salary = salary+salary*
 10/100 ; ELSIF dpt = 'manager' THEN
    UPDATE emp SET salary = salary+salary*
 20/100 ; ELSE
    DBMS_OUTPUT.PUT_LINE ('NO
  INCREMENT'); END IF;
  SELECT * into emp1 FROM emp WHERE emp_no = 104;
  DBMS_OUTPUT.PUT_LINE ('Name: '||emp1.emp_name);
  DBMS_OUTPUT.PUT_LINE ('employee number:
  '||emp1.emp_no); DBMS_OUTPUT.PUT_LINE ('salary: '||
  emp1.salary); DBMS_OUTPUT.PUT_LINE ('department: '||
  emp1.emp_dpt);
END;
```

table creation

```
create table emp(emp_no int,emp_name varchar(20),salary int,emp_dpt
varchar(20)); insert into emp values(101,'arun',50000,'salesman');
insert into emp
values(102,'appu',6500,'manager'); insert into
emp values(103,'ammu',7500,'clerk');
```

insert into emp values(104,'anitha',7500,'analyst');

calling function

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BEGIN

increSalary(

); END;

Output:

```
Statement processed.
Name: anitha
employee number: 104
salary: 8250
department: analyst
```

7) Create a **cursor** to modify the salary of 'president' belonging to all departments by 50%

Table creation and insertion command:

create table emp(emp_no int,emp_name varchar(20),salary int,emp_dpt varchar(20),dsgt varchar(20));

insert into emp values(101,'arun',50000,'sales','president');

insert into emp values(102,'appu',6500,'Ac','president'); insert

into emp values(103,'ammu',7500,'HR','manager'); insert into

emp values(104,'anitha',7500,'Ac','snr grade'); insert into emp

values(105,'anitha.c',7500,'HR','president');

Cursor code:

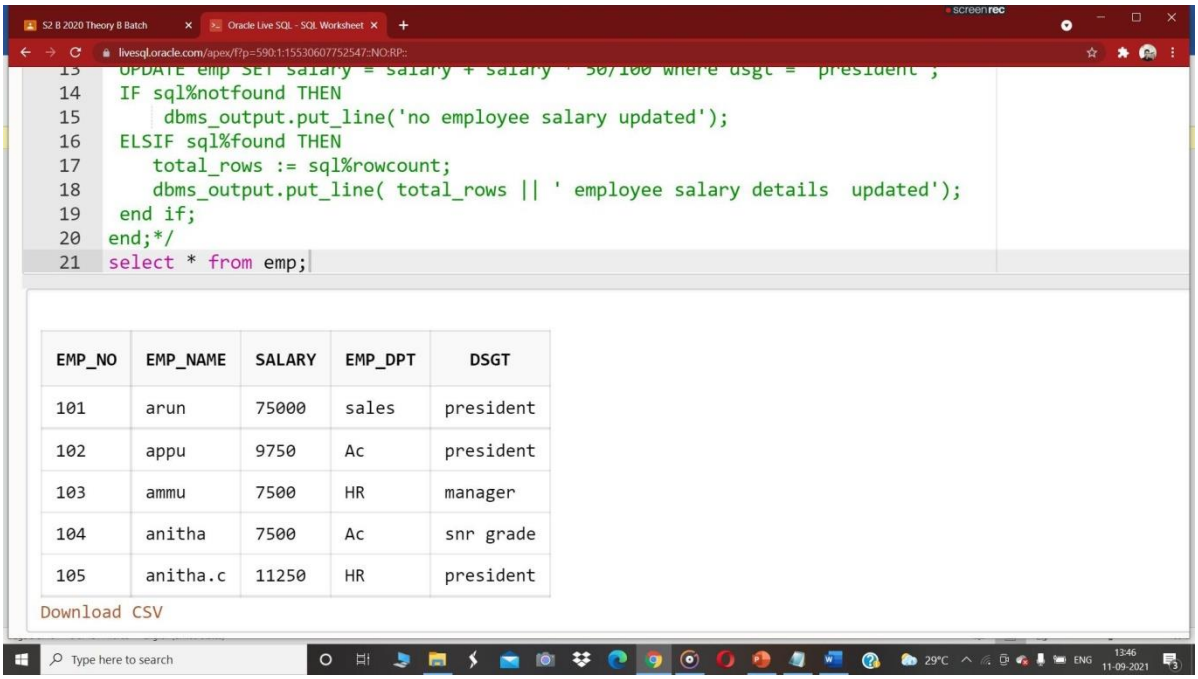
```
DECLARE
   total_rows number(2);
   emp1 EMP%rowtype;
BEGIN

 UPDATE emp SET salary = salary + salary * 50/100 where dsgt = 'president';
```

```
IF sql%notfound THEN
    dbms_output.put_line('no employee salary updated');
ELSIF sql%found THEN
   total_rows := sql%rowcount;
   dbms_output.put_line( total_rows || ' employee salary details updated'); end if;
end;
```

output:

```
Statementprocessed.
3 employee salary details updated
```



8) Write a **cursor** to display list of Male and Female employees whose name starts with S.

Table creation and insert command:

```
create table emp(emp_no varchar(20),emp_name varchar(20),salary
int,emp_dpt varchar(20),gender varchar(10));
```

```
insert into emp
values('101','arun',50000,'sales','male'); insert into
emp values('102','sandeep',6500,'Ac','male'); insert
into emp values('103','ammu',7500,'HR','female');
insert into emp
values('104','snitha',7500,'Ac','female'); insert into
emp values('105','anitha.c',7500,'HR','female');
```

Cursor code:

```
DECLARE
 CURSOR emp1 is SELECT * FROM emp WHERE emp_name
 like ('s%'); emp2 emp1%rowtype;
BEGIN
 open
 emp1; loop
  fetch emp1 into emp2;
  exit when emp1%notfound;
  dbms_output.put_line('employee information: '||' '||emp2.emp_no || ' ' ||
emp2.emp_name || ' ' || emp2.salary|| ' '||emp2.emp_dpt||' '||emp2.gender);
 end loop;
 dbms_output.put_line('Totel number of rows
:'||emp1%rowcount); close emp1;
end;
```

output:

```
Statement processed.
employee information: 102 sandeep 6500 Ac male
employee information: 104 snitha 7500 Ac female
Totel number of rows :2
```

9) Create the following tables for Library Information System: Book : (accession-no, title, publisher, publishedDate, author, status). Status could be issued, present in the library, sent for binding, and cannot be issued. Write a **trigger** which sets the status of a book to "cannot be issued", if it is published 15 years back.

Table creation:

```
create table book(accession_no int , title varchar(20), publisher
varchar(20), publishedDate date, author varchar(20), status
varchar(30));
```

Trigger code:

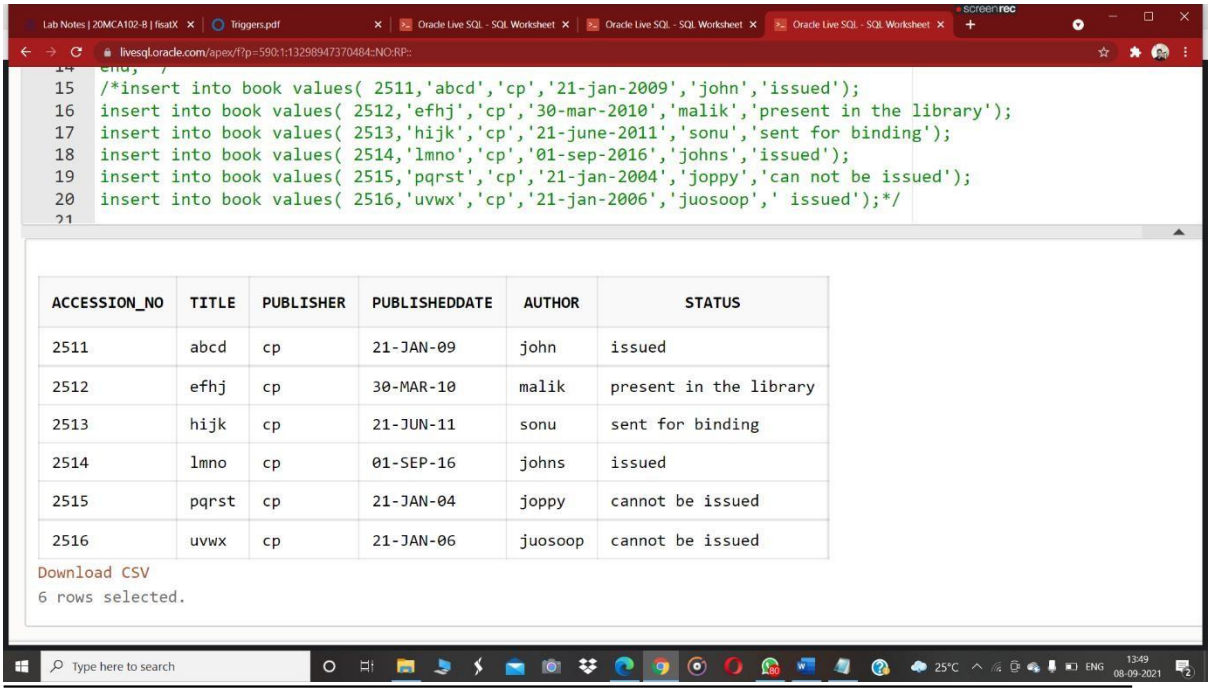
```
CREATE OR REPLACE TRIGGER search1
 before insert ON
 book FOR EACH
 ROW
 declare
temp date;
BEGIN
 select sysdate into temp from
 dual; if inserting  then
  if :new.publishedDate < add_months(temp, -180) then
      :new.status:='cannot be
  issued' ; end if;
 end
if;
end;
```

inserting command:

```
insert into book values( 2511,'abcd','cp','21-jan-2009','john','issued');
insert into book values( 2512,'efhj','cp','30-mar-
2010','malik','present in the library');
insert into book values( 2513,'hijk','cp','21-june-
2011','sonu','sent for binding');
insert into book values( 2514,'lmno','cp','01-sep-2016','johns','issued');
insert into book values( 2515,'pqrst','cp','21-jan-2004','joppy','can
not be issued');
insert into book values( 2516,'uvwx','cp','21-jan-2006','juosoop',' issued');
```

SELECT * FROM book;

Output:



```
/*insert into book values( 2511,'abcd','cp','21-jan-2009','john','issued');
insert into book values( 2512,'efhj','cp','30-mar-2010','malik','present in the library');
insert into book values( 2513,'hijk','cp','21-june-2011','sonu','sent for binding');
insert into book values( 2514,'lmno','cp','01-sep-2016','johns','issued');
insert into book values( 2515,'pqrst','cp','21-jan-2004','joppy','can not be issued');
insert into book values( 2516,'uvwx','cp','21-jan-2006','juosoop',' issued');*/
```

ACCESSION_NO	TITLE	PUBLISHER	PUBLISHEDDATE	AUTHOR	STATUS
2511	abcd	cp	21-JAN-09	john	issued
2512	efhj	cp	30-MAR-10	malik	present in the library
2513	hijk	cp	21-JUN-11	sonu	sent for binding
2514	lmno	cp	01-SEP-16	johns	issued
2515	pqrst	cp	21-JAN-04	joppy	cannot be issued
2516	uvwx	cp	21-JAN-06	juosoop	cannot be issued

Download CSV

6 rows selected.

10) Create a table Inventory with fields pdtid, pdtname, qty and reorder_level. Create a **trigger** control on the table for checking whether qty<reorder_level while inserting values.

Code:

```
create table inventory(pdtid number primary key, pdtname varchar(10), qty int,reorder_level number);

CREATE OR REPLACE TRIGGER checking

before insert ON inventory

FOR EACH ROW

declare

BEGIN

if inserting then

if :new.qty > :new.reorder_level then

    :new.reorder_level:=0;
```

```
 end if;
end   if;
end;
insert into inventory values(101,'pencil',100,150);
insert into inventory values(112,'tap',50,100); insert
into inventory values(121,'marker',200,150);
insert into inventory values(151,'notbook',500,250);
select * from inventory;
```

Output: