SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE

(An Autonomous Institution Affiliated to Bharathiar University,
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COIMBATORE-641 020

DEPARTMENT OF MASTER OF APPLICATION

RECORD NOTE

Core Practical: Relational Database Management System (23PCA1CP3)

This is certified that this is a bonafide record of work done by

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Submitted for the Practical Examination held at Sri Ramakrishna Mission Vidyalaya College of Arts and Science on _____ during the year 2023.

Examiners

Internal **External**

INDEX

1. DDL COMMANDS

Aim:

To write a SQL query for DDL commands to create, alter and drop tables.

Algorithm:

Step 1: Start the SQL Command by clicking Start Program Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the DDL command to create a table by using create table query.

Step 4: Type the DDL command to alter or modify a table by using alter table query.

Step 5: Type the DDL command to delete a table by using drop table query.

Step 6: Execute the command and run the query to see the output.

1. DDL COMMANDS

Create a table Companies with name, id, address, email, and phone number

CREATE TABLE Companies (id int, name varchar(50), address text, email varchar(50), phone varchar(10));

table created.

ALTER TABLE Operations

We can perform the following operations on a table using the ALTER TABLE command:

- **Add a column**
- **Rename a column**
- **Modify a column**
- **Delete a column**
- **Rename a table**

Table Name : Customer

customer_id	first_name	last_name	age	country
1	John	Doe	31	USA
2	Robert	Luna	22	USA
3	David	Robinson	22	UK
4	John	Reinhardt	25	UK
5	Betty	Doe	28	UAE

Add a column :

- ***add phone column to Customers table***

ALTER TABLE Customers ADD phone varchar(10);

customer_id	first_name	last_name	age	country	phone
1	John	Doe	31	USA	
2	Robert	Luna	22	USA	
3	David	Robinson	22	UK	
4	John	Reinhardt	25	UK	
5	Betty	Doe	28	UAE	

Rename Column in a Table :

- *We can rename columns in a table using the ALTER TABLE command with the RENAME COLUMN*

  SQL Command:

  ALTER TABLE Customers RENAME COLUMN customer_id TO c_id;

Modify the Data Type of a Column

- *We can also change the column's data type using the ALTER TABLE command with MODIFY or ALTER COLUMN*

  SQL Command:

  ALTER TABLE Customers MODIFY COLUMN age VARCHAR (2*);*

Drop Column in a Table

- *We can also drop (remove) columns in a table using the ALTER TABLE command with the DROP*

  SQL Command:

  ALTER TABLE Customers DROP COLUMN country;

Rename a Table

- *We can change the name of a table using the ALTER TABLE command with the RENAME*

  SQL Command:

  ALTER TABLE Customers RENAME TO New_customers;

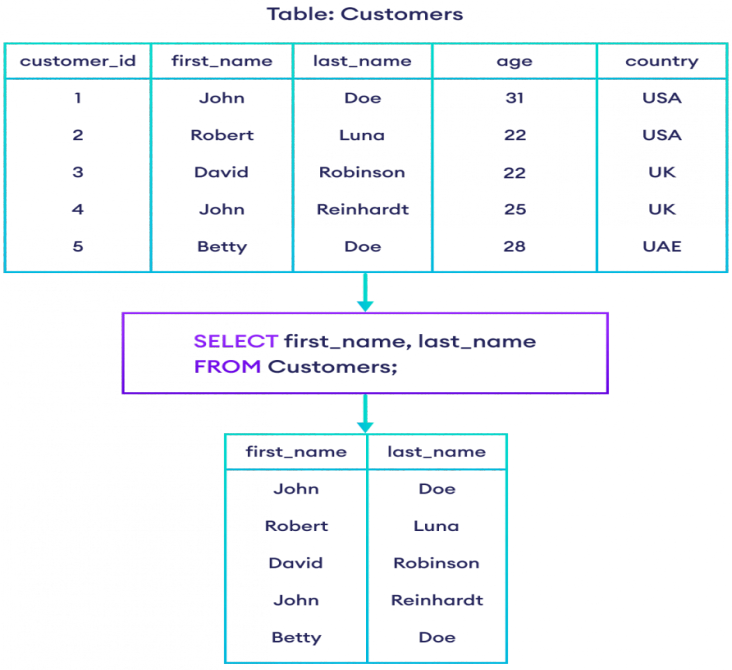
Result:

c_id	first_name	last_name	age	country
1	John	Doe	31	USA
2	Robert	Luna	22	USA
3	David	Robinson	22	UK
4	John	Reinhardt	25	UK
5		Doe	28	UAE

SQL SELECT Query

The SQL SELECT statement is used to select (retrieve) data from a database table.

- SELECT first_name, last_name FROM Customers;



- SELECT * FROM Customers WHERE last_name = 'Doe';

Drop:

Alter table student drop(programme);

Table altered

Drop:

drop table student

Table dropped.

2. DML COMMANDS

Aim:

To write a SQL query for DML commands to insert, update, delete and select records.

Algorithm:

Step 1: Start the SQL Command by clicking Start Program Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the DML command to insert the record by using insert into table query.

Step 4: Type the DML command to alter or modify the record by using alter table query.

Step 5: Type the DML command to delete the record by using delete query.

Step 6: Type the DML command to view the table records by using select query.

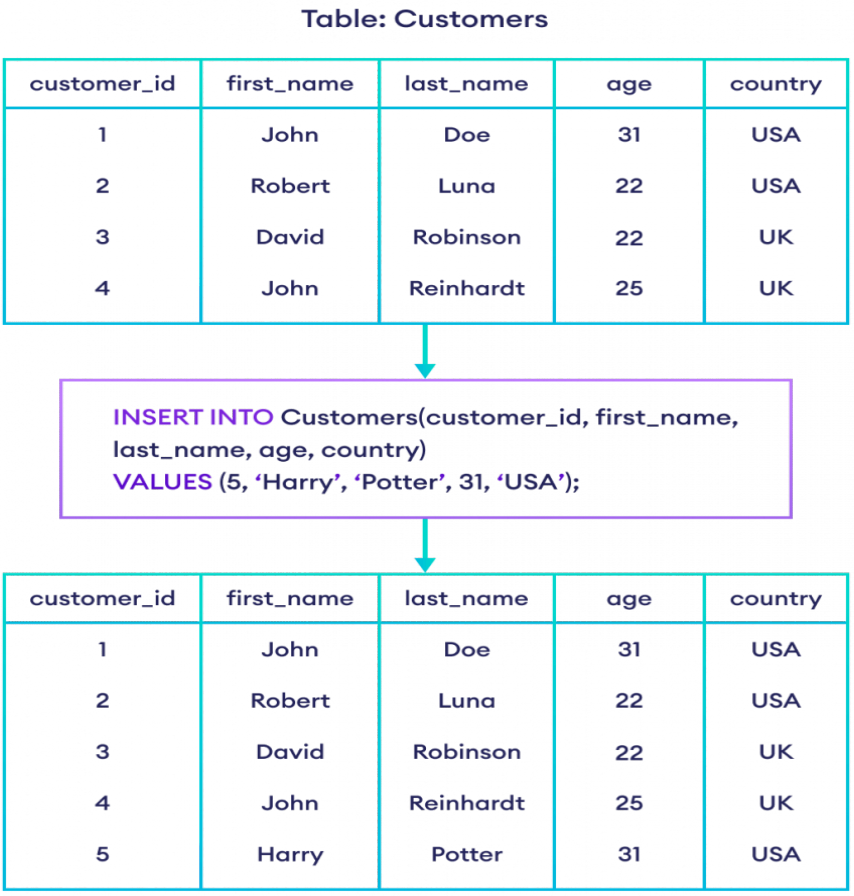
Step 7: Execute the command and run the query to see the output.

2. DML COMMANDS

Insert a row in the Customers table

INSERT INTO Customers(customer_id, first_name, last_name, age, country)

VALUES(5, 'Harry', 'Potter', 31, 'USA'); insert into emp01 values('sethu', 'm6001', 20000);



SQL UPDATE Statement

- UPDATE Customers SET first_name = 'Johnny' WHERE customer_id = 1;

SQL SELECT INTO (Copy Table)

In SQL, the SELECT INTO statement is used to copy data from one table to another.

copy all the contents of a table to a new table

SELECT * INTO CustomersCopy FROM Customers;

Delete a Single Row in a Table

- DELETE FROM Customers WHERE customer_id = 5;

- DELETE FROM Customers;

3. RELATIONAL AND LOGICAL OPERATORS

Aim:

To write the SQL query and perform relational and logical operators.

Algorithm:

Step 1: Start the SQL Command by clicking Start Program Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the select query command with logical and relational operators.

Step 4: Execute the command and run the query to see the output.

Step 5: Stop the process.

3. RELATIONAL AND LOGICAL OPERATORS

create table students(st_name varchar(25),st_reg_no varchar(10),st_mark number(3),st_percent number(3),st_city varchar(25));

insert into students values('sethu','20PCA036',85,85,'cbe');

insert into students values('moulies', '20PCA021',95,95,'erd');

insert into students values('gopal', '20PCA023',75,75,'salem');

insert into students values('gopi','20PCA008',65,65,'salem');

insert into students values('mouli','20PCA020',45,45,'mettur');

select * from students;

ST_NAME	ST_REG_NO	ST_MARK	ST_PERCENT	ST_CITY
Sethu	20PCA036	85	85	CBE
Moulies	20PCA021	95	95	ERD
Gopi	20pCA008	65	65	SALEM
Mouli	20PCA020	45	45	Mettur
Gopal	20PCA023	75	75	SALEM

select * from students where St_percent>=75;

ST_NAME	ST_REG_NO	ST_MARK	ST_PERCENT	ST_CITY
Sethu	20PCA036	85	85	CBE
Moulies	20PCA021	95	95	ERD
Gopal	20PCA023	75	75	SALEM

select * from students where st_percent<75;

ST_NAME	ST_REG_NO	ST_MARK	ST_PERCENT	ST_CITY
Gopi	20PCA008	65	65	SALEM
Mouli	20PCA020	45	45	Mettur

select * from students where St_percent!=75;

ST_NAME	ST_REG_NO	ST_MARK	ST_PERCENT	ST_CITY
Sethu	20PCA036	85	85	CBE
Moulies	20PCA021	95	95	ERD
Gopi	20PCA008	65	65	SALEM
Mouli	20PCA020	45	45	Mettur

select * from students where St_percent< >75;

ST_NAME	ST_REG_NO	ST_MARK	ST_PERCENT	ST_CITY
Sethu	20PCA036	85	85	CBE
Moulies	20PCA021	95	95	ERD
Gopi	20PCA008	65	65	SALEM
Mouli	20PCA020	45	45	Mettur

select * from students where St_percent>=75 and St_city='CBE';

ST_NAME	ST_REG_NO	ST_MARK	ST_PERCENT	ST_CITY
Sethu	20PCA036	85	85	CBE

select * from students where St_percent>=75 or St_city='CBE';

ST_NAME	ST_REG_NO	ST_MARK	ST_PERCENT	ST_CITY
Sethu	20PCA036	85	85	CBE
Moulies	20PCA021	95	95	ERD
Gopal	20PCA023	75	75	SALEM

select * from students where not St_city='CBE';

ST_NAME	ST_REG_NO	ST_MARK	ST_PERCENT	ST_CITY
Moulies	20PCA021	95	95	ERD
Gopi	20PCA008	65	65	SALEM
Mouli	20PCA020	45	45	Mettur
Gopal	20PCA023	75	75	SALEM

4. SET, GROUP BY AND SORT OPERATIONS

Aim:

To write the SQL query and perform set, group by and sort operations.

Algorithm:

Step 1: Start the SQL Command by clicking Start Program Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the select query command with set, group by and sort operations.

Step 4: Execute the command and run the query to see the output.

Step 5: Stop the process.

4. SET, GROUP BY AND SORT OPERATIONS

create table stud(st_name varchar(15),st_reg varchar(10),st_fee number(10));

insert into stud values('KRISHNAN','20PCA036',18000);
insert into stud values('HARI','20PCA036',16000);
insert into stud values('HARSITH','20PCA036',19000);
insert into stud values('HAREESH','20PCA036',21000);

select * from stud;

ST_NAME	ST_REG	ST_FEE
KRISHNAN	20PCA036	18000
HARI	20PCA036	16000
HARSITH	20PCA036	19000
HAREESH	20PCA036	21000

create table mark(st_name varchar(15),st_reg varchar(10),st_mark number(5));

insert into mark values('SETHU','20PCA036',400);
insert into mark values('HARI','20UCC036',425);
insert into mark values('HARSITH','20UPA036',475);
insert into mark values('HAREESH','20UCS036',499);
insert into mark values('RAM','20UIT036',399);

select * from mark;

ST_NAME	ST_REG	ST_MARK
SETHU	20PCA036	400
HARI	20UCC036	425
HARSITH	20UPA036	475
HAREESH	20UCS036	499
RAM	20UIT036	399

Set operations:

```
select st_name from stud
union
select St_name from mark
```

ST_NAME
HAREESH
HARI
HARSITH
KRISHNAN
RAM
SETHU

select st_name from stud

intersect

select St_name from mark

ST_NAME
HAREESH
HARI
HARSITH

Select St_Name from stud

MINUS

Select St_Name from mark

ST_NAME
KRISHNAN

Select St_Name from stud union all

ST_NAME
KRISHNAN
HARI
HARSITH
HAREESH
SETHU
HARI
HARSITH
HAREESH
RAM

Group by operations:

```
select avg(st_mark)
from mark
group by st_reg;
```

AVG(ST_MARK)
400
425
499
475
399

Sort operations:

```
SELECT * FROM stud
ORDER BY st_name DESC;
```

ST_NAME	ST_REG	ST_FEE
KRISHNAN	20PCA036	18000
HARSITH	20PCA036	19000
HARI	20PCA036	16000
HAREESH	20PCA036	21000

5. COUNT AND CHARACTER FUNCTIONS

Aim:

To write the SQL query and perform the count and character functions.

Algorithm:

Step 1: Start the SQL Command by clicking Start □ Program □ Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the select query command with count and character functions.

Step 4: Execute the command and run the query to see the output.

Step 5: Stop the process.

5. COUNT FUNCTIONS

create table customer(ID number,Name varchar(20),Age number, City varchar(10),

salary number)

insert into customer values (1, 'Ramesh', 32, 'Ahmedabad', 2000);

insert into customer values (2, 'Khilan', 25, 'Delhi', Null);

insert into customer values (3, 'kaushik', 23, 'Kota', 2000);

insert into customer values (4, 'Chaitali', 25, 'Mumbai', Null);

insert into customer values (5, 'Hardik', 27, 'Bhopal', 8500);

insert into customer values (6, 'Komal', 22, 'MP', 4500);

select*from customer;

ID	NAME	AGE	CITY	SALARY
1	Ramesh	32	Ahmedabad	2000
2	Khilan	25	Delhi	-
3	kaushik	23	Kota	2000
4	Chaitali	25	Mumbai	-
5	Hardik	27	Bhopal	8500
6	Komal	22	MP	4500

select count(*)from customer;

COUNT(*)
6

select count(distinct salary)from   customer;

COUNT(DISTINCTSALARY)
3

select count(all salary)from customer;

COUNT(ALLSALARY)
4

Character Function

select LOWER('SAMI') from dual;

LOWER('SAMI')
sami

select UPPER('sami') from dual;

UPPER('SAMI')
SAMI

select INITCAP('john raj') from dual;

INITCAP('JOHNRAJ')
John Raj

select LENGTH('RTYUIOKP') from dual;

LENGTH('RTYUIOKP')
8

select SUBSTR('SRMVCAS',5,3)from dual;

SUBSTR('SRMVCAS',5,3)
CAS

select LPAD('100',5,'*') from dual;

LPAD('100',5,'*')
**100

select RPAD('5000',7,'*') from dual;

RPAD('5000',7,'*')
5000***

select TRIM('G' FROM 'GEEKS') from dual;

TRIM('G'FROM'GEEKS')
EEKS

select REPLACE('I am in BCA', 'BCA','MCA') from dual;

REPLACE('IAMINBCA','BCA','MCA')
I am in MCA

select TRANSLATE('+91 25-2469782464', '0123456789-+','6789012345+-')encode_number from dual;

ENCODE_NUMBER
-57 81+8025348020

select SOUNDEX('Juice'), SOUNDEX('Banana')from dual;

SOUNDEX('JUICE')	SOUNDEX('BANANA')
J200	B550

select LTRIM('   INTERFACE   ') from dual;

LTRIM('INTERFACE')
INTERFACE

select RTRIM('   INTERFACE   ') from dual;

RTRIM('INTERFACE')
INTERFACE

6. NUMBER AND DATE FUNCTIONS

Aim:

To write the SQL query and perform the number and date functions.

Algorithm:

Step 1: Start the SQL Command by clicking Start □ Program □ Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the select query command with number and date functions.

Step 4: Execute the command and run the query to see the output.

Step 5: Stop the process.

6. NUMBER FUNCTIONS

select ABS(5) from DUAL;

ABS(5)
5

select 1561.75 AS "NUMBER", CEIL(1561.75) from DUAL;

NUMBER	CEIL(1561.75)
1561.75	1562

select FLOOR(4.43) from DUAL;

FLOOR(4.43)
4

select ROUND(4.93) from DUAL;

ROUND(4.93)
5

select POWER(3,2) from DUAL;

POWER(3,2)
9

select MOD(7,2) from DUAL;

MOD(7,2)
1

select SIGN(-36),SIGN(0),SIGN(36) from DUAL;

SIGN(-36)	SIGN(0)	SIGN(36)
-1	0	1

DATE_FUNCTION

select ADD_MONTHS(SYSDATE,4)"Add Months"from dual;

Add Months
20-JUL-19

select SYSDATE,LAST_DAY(SYSDATE)"LastDay"from dual;

SYSDATE	LastDay
20-MAR-19	31-MAR-19

select MONTHS_BETWEEN('02-FEB-95','02-JAN-99')"Months"from dual;

SYSDATE	LastDay
20-MAR-19	31-MAR-19

select NEXT_DAY('10-AUG-19','Saturday')"NEXT DAY"from dual;

NEXT DAY
17-AUG-19

select ROUND(TO_DATE('01-JUL-19'),'YYYY')"Year"from dual;

Year
01-JAN-20

select NEW_TIME(TO_DATE('2004/07/01 01:45','yyyy/mm/dd HH24:MI'),'AST','MST')"MST" from dual;

MST
30-JUN-04

select TO_CHAR(SYSDATE,'DD-MM-YY')from dual;

TO_CHAR(SYSDATE,'DD-MM-YY')
20-03-19

select TO_DATE('06/07/02','DD/MM/YY')from dual;

TO_DATE('06/07/02','DD/MM/YY')
06-JUL-02

7. AGGREGATE FUNCTIONS

Aim:

To write the SQL query and perform the aggregate functions.

Algorithm:

Step 1: Start the SQL Command by clicking Start Program Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the select query command with aggregate functions.

Step 4: Execute the command and run the query to see the output.

Step 5: Stop the process.

7. AGGREGATE FUNCTIONS

create table srmv(St_Name varchar(25),St_Reg_no varchar(10),St_mark number(3),St_Class varchar(25),Subject varchar(10));

insert into srmv values('Arun','20PCA036',89,'I MCA','RDBMS');

insert into srmv values('Balu','20PCA025',79,' I MCA ','RDBMS');

insert into srmv values('Chandhru','20PCA045',69,

' I MCA','RDBMS');

insert into srmv values('Dheena','20PCA015',59,' I MCA','RDBMS');

insert into srmv values('Esha','20PCA050',89,' I MCA','RDBMS');

select * from srmv;

ST_NAME	ST_REG_NO	ST_MARK	ST_CLASS	SUBJECT
Arun	20PCA036	89	I MCA	RDBMS
Balu	20PCA025	79	I MCA	RDBMS
Chandhru	20PCA045	69	I MCA	RDBMS
Dheena	20PCA015	59	I MCA	RDBMS
Esha	20PCA050	89	I MCA	RDBMS

select sum(St_mark) from srmv;

SUM(ST_MARK)
385

select max(St_mark) from srmv;

MAX(ST_MARK)
89

select min(St_mark) from srmv;

MIN(ST_MARK)
59

select count(St_name) from srmv;

COUNT(ST_NAME)
5

select avg(St_mark) from srmv;

AVG(ST_MARK)
77

8. VIEW PASSENGER TABLE USING PL/SQL

Aim:

To write the PL/SQL program to view the passenger table records.

Algorithm:

Step 1: Start the SQL Command by clicking Start □ Program □ Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the PL/SQL program to view the passenger table records.

Step 4: Execute the command and run the query to see the output.

Step 5: Stop the process.

8. PASSENGER TABLE IN PL/SQL

create table passenger(Ticket_no varchar(10),Name varchar(25),age number(3),Gender varchar(10),Start_place varchar(20),Destination varchar(20),fare number(8,2),primary key(Ticket_no));

insert into passenger values ('M1001','Naveen',20,'male','coimbatore','dharmapuri',450);

insert into passenger values ('M1002','praveen',20,'male','Hosur','palacode',450);

insert into passenger values ('M1003','varun',30,'male','Krishnagri','Thambaram',450);

insert into passenger values ('M1004','keerthi',40,'male','Chennai','dharmapuri',450);

insert into passenger values ('M1005','kumar',25,'male','Madurai','Kanyakumari',450);

select * from passenger;

TICKET_NO	NAME	AGE	GENDER	START_PLACE	DESTINATION	FARE
M1002	praveen	20	male	Hosur	palacode	450
M1003	varun	30	male	Krishnagri	Thambaram	450
M1004	keerthi	40	male	Chennai	dharmapuri	450
M1005	kumar	25	male	Madurai	Kanyakumari	450
M1001	Naveen	20	male	coimbatore	dharmapuri	450

```
begin
dbms_output.put_line('passenger in database');
for t in (select Ticket_no,Name,age,Gender,Start_place,Destination,fare from passenger)
loop
dbms_output.put_line(t.Ticket_no);
dbms_output.put_line(t.Name);
dbms_output.put_line(t.age);
dbms_output.put_line(t.Gender);
dbms_output.put_line(t.Start_place);
dbms_output.put_line(t.Destination);
dbms_output.put_line(t.fare);
end loop;
end;
```

output:

passenger in database
M1002
praveen
20
male
Hosur
palacode
450
M1003
varun
30
male
Krishnagri
Thambaram
450
M1004
keerthi
40
male

Chennai
dharmapuri
450
M1005
kumar
25
male
Madurai
Kanyakumari
450
M1001
Naveen
20
male
coimbatore
dharmapuri
450

9.Write a pl/sql program to Fibonacci and Factorial Number using Function

Aim:

To write the PL/SQL program to perform and find the factorial value.

Algorithm:

Step 1: Start the SQL Command by clicking Start □ Program □ Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the PL/SQL program to perform and find the factorial value.

Step 4: Execute the command and run the query to see the output.

Step 5: Stop the process.

9.Write a pl/sql program to Fibonacci and factorial number using function

```
SQL>set serveroutput on;

SQL> create or replace function fact1(m number) return number is
  2  begin
  3  if(m!=0)then
  4  return (m*fact1(m-1));
  5  else
  6  return(1);
  7  end if;
  8  end;
 9 /

Function created.

SQL> create or replace function fibo1(m number) return number is

CREATE OR REPLACE FUNCTION fibo2(m NUMBER) RETURN NUMBER IS
  2  BEGIN
  3    IF (m = 1) THEN
  4      RETURN 0;
  5    ELSIF (m = 2) THEN
  6      RETURN 1;
  7    ELSE
  8      RETURN (fibo2(m - 1) + fibo2(m - 2));
```

```
 9    END IF;
10  END;
11  /Function created.
```

```
SQL>  declare
 2   n number:=&n;
 3   begin
 4   dbms_output.put_line('fibonaci serice');
 5   for i in 1..n
 6   loop
 7   dbms_output.put_line(fibo1(i));
 8   end loop;
 9   dbms_output.put_line(' ');
10    dbms_output.put_line('factorial of this number is');
11    dbms_output.put_line(n||'is'||fact1(n));
12    end;
13  /
```

Output:

Enter value for n: 5

old 2: n number:=&n;

new 2: n number:=5;

fibonaci serice

0

1

1

2

3

factorial of this number is

5 is 120

PL/SQL procedure successfully completed.

10. ARITHMETIC OPERATION USING PL/SQL

Aim:

To write the PL/SQL program to perform the arithmetic operation.

Algorithm:

Step 1: Start the SQL Command by clicking Start Program Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the PL/SQL program to perform the arithmetic operation.

Step 4: Execute the command and run the query to see the output.

Step 5: Stop the process.

10. ARITHMETIC OPERATION USING PL/SQL

```
DECLARE

   var1 integer;
   var2 integer;
   var3 integer;
   var4 integer;
   var5 integer;
   var6 integer;
BEGIN

   var1:=:var1;
   var2:=:var2;
   var3:=var1+var2;
   dbms_output.put_line(' Addition of  Two Numbers:'||var3);
   var4:=var1-var2;
   dbms_output.put_line(' Subtraction of  Two Numbers:'||var4);
   var5:=var1*var2;
   dbms_output.put_line(' Multiplication of Two Numbers:'||var5);
   var6:=var1/var2;
   dbms_output.put_line(' Division of  Two Number:'||var6);
END;
```

OUTPUT:

:VAR1 20

:VAR2 5

Addition of Two Numbers:25

Subtraction of Two Numbers:15

Multiplication of Two Numbers:100

Division of Two Number:4

11. LOOPING STATEMENT IN PL/SQL

Aim:

To write the PL/SQL program to perform the looping statement.

Algorithm:

Step 1: Start the SQL Command by clicking Start Program Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the PL/SQL program to perform the looping statement.

Step 4: Execute the command and run the query to see the output.

Step 5: Stop the process.

11. LOOPING STATEMENT IN PL/SQL

set serveroutput on;

```
DECLARE
        i int;
BEGIN
        i := 1;
        LOOP
                if i>10 then
                        exit;
                end if;
                dbms_output.put_line(i);
                i := i+1;
        END LOOP;
END;
```

OUTPUT:

1
2
3
4
5
6
7
8
9
10

PL/SQL: While Loop

```
set serveroutput on;
DECLARE
        num int:=1;
BEGIN
        while(num <= 10) LOOP
                dbms_output.put_line('|| no);
                num := num+2;
        END LOOP;
END;
```

Output

```
1
3
5
7
```

9

PL/SQL procedure successfully completed

PL/SQL: For Loop

```
set serveroutput on;
DECLARE
    i number(2);
BEGIN
    FOR i IN 1..10 LOOP
        dbms_output.put_line(i);
    END LOOP;
END;
```

Output:

1
2
3
4
5
6
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PL/SQL procedure successfully completed.

12. AREA OF CIRCLE USING PL/SQL

Aim:

To write the PL/SQL program to find the area of circle.

Algorithm:

Step 1: Start the SQL Command by clicking Start Program Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the PL/SQL program to find the area of circle.

Step 4: Execute the command and run the query to see the output.

Step 5: Stop the process.

12. AREA OF CIRCLE USING PL/SQL

```
DECLARE
   radius float;
   area float;
BEGIN
   radius:=:radius;
   area:=3.14*radius*radius;
   dbms_output.put_line(' The Area Of Circle is: '||area);
END;
```

OUTPUT:

The Area of Circle is: 86.54625

13. WRITE A PL/SQL CURSOR PROGRAM TO GET ALL STUDENT NAME AND REG.NO AND ST-FEES

Aim:

To write the PL/SQL program to display the students information using cursor

Algorithm:

Step 1: Start the SQL Command by clicking Start Program Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the PL/SQL program to create a student table.

Step 4: Type the PL/SQL program to create a cursor program to update student table .

Step 4: Execute the command and run the query to see the output.

Step 5: Stop the process.

13. WRITE A PL/SQL CURSOR PROGRAM TO GET ALL STUDENT NAME AND REG.NO AND ST-FEES.

```
SQL> select *from stud;

ST_NAME        ST_REG        ST_FEE
-------------- ---------- ----------
KRISHNAN       23PCA036       18002
HARI           23PCA036       16002
HARSITH        23PCA036       19002
HAREESH        23PCA036       21002

SQL> DECLARE
  2    total_rows number(2);
  3  BEGIN
  4    UPDATE  stud
  5    SET st_fee = st_fee + 50;
  6    IF sql%notfound THEN
  7       dbms_output.put_line('no customers updated');
  8    ELSIF sql%found THEN
  9       total_rows := sql%rowcount;
 10       dbms_output.put_line( total_rows || ' stdu updated ');
```

```
 11     END IF;
 12  END;
 13  /
4 stdu updated

PL/SQL procedure successfully completed.
```

Output:

```
SQL> select *from stud;

ST_NAME        ST_REG        ST_FEE
-------------- ---------- ----------
KRISHNAN          23PCA036       18052
HARI                 23PCA036       16052
HARSITH           23PCA036       19052
HAREESH          23PCA036       21052
```

14. Write A Pl/SQL Simple Exception Handling Program

Aim:

To write the PL/SQL program to display the error based on exception handling

Algorithm:

Step 1: Start the SQL Command by clicking Start Program Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the PL/SQL program to create exception values .

Step 4: Type the PL/SQL program to create 'ZERO DIVIDE ERROR'

Step 4: Execute the command and run the query to see the output.

Step 5: Stop the process.

14. Write a PL/SQL simple Exception Handling program

SQL>set serveroutput on;

```
SQL> declare
  2  n integer;
  3  begin
  4  n:=10/0;
  5  exception
  6  when zero_divide then
  7  dbms_output.put_line('ZERO DIVIDE ERROR');
  8  end;
  9  /
```

Output:

ZERO DIVIDE ERROR

PL/SQL procedure successfully completed.

.

15. Write a pl/sql trigger program to filtering the student result

Aim:

To write the PL/SQL program to display the error based on exception handling

Algorithm:

Step 1: Start the SQL Command by clicking Start Program Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the SQL program to create multiple table .

Step 4: Type the PL/SQL create or replace trigger first after insert on new1

Step 5: Execute the command and run the query to see the output.

Step 6: Stop the process.

15.Write a pl/sql trigger program to filtering the student result.

SQL> create table new1(rno varchar(10),name varchar(20),m1 number(3),m2 number(3),m3 number(3),m4 number(3));

Table created.

SQL> create table pass(rno varchar(10),name varchar(20),m1 number(3),m2 number(3),m3 number(3),m4 number(3), tot number(4),avg number(4,2),result varchar(10));

Table created.

SQL> create table fail(rno varchar(10),name varchar(20),m1 number(3),m2 number(3),m3 number(3),m4 number(3), tot number(4),avg number(4,2),result varchar(10));

Table created.

```
SQL> create or replace trigger first after insert on new1
  2  for each row
  3  declare
  4  begin
  5  if(:new.m1>=50)and(:new.m2>=50)and(:new.m3>=50)and(:new.m4>=50) then
```

```
  6  insert into pass(rno,name,m1,m2,m3,m4,tot,avg,result)
  7
values(:new.rno,:new.name,:new.m1,:new.m2,:new.m3,:new.m4,:new.m1+:new.m2+:new.m3+:ne
w.m4,(:new.m1+:new.m2+:new.m3+:new.m4)/4,'PASS');
  8  else
  9  insert into fail(rno,name,m1,m2,m3,m4,tot,avg,result)
 10
values(:new.rno,:new.name,:new.m1,:new.m2,:new.m3,:new.m4,:new.m1+:new.m2+:new.m3+:ne
w.m4,(:new.m1+:new.m2+:new.m3+:new.m4)/4,'FAIL');
 11  end if;
 12  end;
 13  /

Trigger created.

SQL> insert into new1 values('11mca001','abhishek',60,70,80,85);

1 row created.

SQL> insert into new1 values('11mca002','anandan',20,50,60,80);

1 row created.

SQL> insert into new1 values('11mca006','chirantan',60,70,85,80);

1 row created.
```

Output:

SQL> select * from new1;

RNO	NAME	M1	M2	M3	M4
11mca001	abhishek	60	70	80	85
11mca002	anandan	20	50	60	80
11mca006	chirantan	60	70	85	80

SQL> select * from pass;

RNO	NAME	M1	M2	M3	M4	TOT	AVG	RESULT
11mca001	abhishek	60	70	80	85	295	73.75	PASS
11mca006	chirantan	60	70	85	80	295	73.75	PASS

SQL> select * from fail;

RNO	NAME	M1	M2	M3	M4	TOT	AVG	RESULT
11mca002	anandan	20	50	60	80	210	52.5	FAIL

16. Write a PL/SQL using Package.

Aim:

To write the PL/SQL program to display the error based on exception handling

Algorithm:

Step 1: Start the SQL Command by clicking Start □ Program □ Oracle10G Apex Login.

Step 2: Give the username is System and password is MCA to open the Oracle10G Software.

Step 3: Type the SQL program to create create package.

Step 4: Type the SQL program to create Package body created

Step 5: Type the PL/SQL create or replace trigger first after insert on new1

Step 6: Execute the command and run the query to see the output.

Step 7: Stop the process.

16. Write a PL/SQL using Package .

```
SQL> CREATE PACKAGE citi AS
  2     FUNCTION p_strng RETURN VARCHAR2;
  3  END citi;
  4  /

Package created.

SQL> CREATE OR REPLACE PACKAGE BODY citi AS
  2   --function implemented
  3    FUNCTION p_strng RETURN VARCHAR2 IS
  4     BEGIN
  5       RETURN 'Software Testing Help!';
  6     END p_strng;
  7  END citi;
  8  /

Package body created.
```

```
SQL> BEGIN
  2    DBMS_OUTPUT.PUT_LINE (citi.p_strng);
  3  END;
  4  /
Software Testing Help!


PL/SQL procedure successfully completed.


SQL>
```