**Ex.No.:10A**

**TRIGERS BEFORE INSERT OR UPDATE**

**Date**

SQL> create table customers(id number,name varchar2(20),age number,address varchar2(20),salary number);

Table created.

SQL> select \* from customers;

ID NAME AGE ADDRESS SALARY

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

1 AAA 32 Chennai 2000

2 BBB 34 Vellore 15000

**PROGRAM:-**

CREATE OR REPLACE TRIGGER before\_insert\_update

BEFORE INSERT OR UPDATE ON customers

FOR EACH ROW WHEN (NEW.ID > 0)

DECLARE

sal\_diff number;

BEGIN

sal\_diff := :NEW.salary - :OLD.salary;

dbms\_output.put\_line('Old salary: ' || :OLD.salary);

dbms\_output.put\_line('New salary: ' || :NEW.salary);

dbms\_output.put\_line('Salary difference: ' || sal\_diff);

END;

/

**OUTPUT:-**

SQL> @trib

Trigger created.

SQL> insert into customers values(3,'CCC',30,'Chennai',5000);

Old salary:

New salary: 5000

Salary difference:

1 row created.

SQL> update customers set salary=7000 where id=3;

Old salary: 5000

New salary: 7000

Salary difference: 2000

1 row updated.

**Ex.No.:10B**

**TRIGERS BEFORE DELETE**

**Date**

**PROGRAM:-**

CREATE OR REPLACE TRIGGER before\_delete

BEFORE DELETE ON customers

FOR EACH ROW

BEGIN

IF( :OLD.ID = 3) THEN

RAISE\_APPLICATION\_ERROR( -20001, 'Query has attempted to

delete!' );

END IF;

END;

/

**OUTPUT:-**

SQL> @tridel

Trigger created.

SQL> select \* from customers;

ID NAME AGE ADDRESS SALARY

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1 AAA 32 Chennai 2000

2 BBB 34 Vellore 15000

3 CCC 30 Chennai 7000

SQL> delete from customers where id=3;

delete from customers where id=3

\*

ERROR at line 1:

ORA-20001: Query has attempted to delete!

ORA-06512: at "SCOTT.DISPLAY\_SALARY\_CHANGES", line 3

ORA-04088: error during execution of trigger 'SCOTT.DISPLAY\_SALARY\_CHANGES'

**Ex.No.:10C**

**TRIGERS AFTER INSERT OR UPDATE**

**Date**

SQL> create table customers\_backup(id number,name varchar2(20),age number,address varchar2(20),salary number);

Table created.

SQL> select \* from customers;

ID NAME AGE ADDRESS SALARY

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

1 AAA 32 Chennai 2000

2 BBB 34 Vellore 15000

3 CCC 30 Chennai 7000

**PROGRAM:-**

CREATE or REPLACE TRIGGER after\_insert

AFTER INSERT OR UPDATE ON customers

FOR EACH ROW

BEGIN

insert into customers\_backup values

(:new.id,:new.name,:new.age,:new.address,:new.salary);

DBMS\_OUTPUT.PUT\_LINE('Record successfully inserted into

customers\_backup table');

END;

/

**OUTPUT:-**

SQL> @tria

Trigger created.

SQL> insert into customers values(4,'DDD',32,'Delhi',4300);

Record successfully inserted into customers\_backup table

SQL> select \* from customers\_backup;

ID NAME AGE ADDRESS SALARY

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4 DDD 32 Delhi 4300