Experiment 3.3

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Semester: 3rd

Date of Performance: 10/11/2022

Subject Name: DBMS

Subject Code: 21CSH-214

1. **Aim:** Introduction and implementation of programs of Triggers .

2. **Objective:** Implement Trigger in PL/SQL.

3. **DBMS script and output:**

Trigger: Automatically occurs when there is change in Database.

Types of Triggers:

1)Row trigger
2)Statement trigger

Categories of Trigger:

1)Before trigger - Before row trigger Before statement rigger

2)After trigger - After row trigger after statement trigger

*Used to keep record of changes made to DataBase.

Syntax:

```
Create trigger <trig_name> {after|before} delete or update or insert on <table_name>
        [referencing old record as old & new record as new]
        for each row
Declare
        <variable/constant declaration>;
Begin
        Execute PL/SQL block code;
End <trig_name>;
```

Program Code:-

```
Create Table Audit_info(
    Eno number(5),
    name varchar2(20),
    salary number(10),
    Did number(5),
    Operation varchar(8)
);

Create trigger audit_trail after delete or update on Employees for each row
declare
    opr varchar2(8);
begin
    if updating then
        opr:='Update';
    end if;
    if deleting then
        opr:='Delete';
    end if;

    Insert into audit_info values
    (:old.Eid, :old.Ename, :old.sal, :old.dno, opr);
End audit_trail;
```

```
Update Employees SET dno=2 where eid=4;

delete from Employees where eid=7;


Select * from Employees;
Select * from Audit_info;
```

OUTPUT:

BEFORE:

EID	ENAME	SAL	DNO
1	Rohan	2000	1
2	Sinu	100	2
3	Sameer	1700	1
7	Mrinal	1300	3
6	Himu	2000	1
5	Ruhela	810	3
4	Harsh	1000	3

AFTER:

EID	ENAME	SAL	DNO
1	Rohan	2000	1
2	Sinu	100	2
3	Sameer	1700	1
6	Himu	2000	1
5	Ruhela	810	3
4	Harsh	1000	2

Audit Table

ENO	NAME	SALARY	DID	OPERATION
4	Harsh	1000	3	Update
7	Mrinal	1300	3	Delete