Godavari Foundation's

Godavari College of Engineering, Jalgaon

Department of Computer

Lab Manual

Database System Laboratory

Practical No:- ____

Date:-_____

Name of Student:- _____

Class:-_____ **Roll No:-_____**

Title:

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Aim: -

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Software Requirement: _____

Hardware Requirement:- _____

Theory:-

TRIGGER

A trigger is a stored procedure in database which automatically invokes whenever a special event in the database occurs. For example, a trigger can be invoked when a row is inserted into a specified table or when certain table columns are being updated.

Syntax:-

```
create trigger [trigger_name]
[before | after]
{insert | update | delete}
on [table_name]
[for each row]
[trigger_body]
```

Explanation of syntax:-

1. create trigger [trigger_name]: Creates or replaces an existing trigger with the trigger_name.
2. [before | after]: This specifies when the trigger will be executed.
3. {insert | update | delete}: This specifies the DML operation.
4. on [table_name]: This specifies the name of the table associated with the trigger.
5. [for each row]: This specifies a row-level trigger, i.e., the trigger will be executed for each row being affected.
6. [trigger_body]: This provides the operation to be performed as trigger is fired

BEFORE and AFTER Trigger:-

BEFORE triggers run the trigger action before the triggering statement is run.
AFTER triggers run the trigger action after the triggering statement is run.

CURSOR

Cursor is a Temporary Memory or Temporary Work Station. It is Allocated by Database Server at the Time of Performing DML operations on Table by User. Cursors are used to store Database Tables. There are 2 types of Cursors: Implicit Cursors, and Explicit Cursors. These are explained as following below.

1. **Implicit Cursors:-**

Implicit Cursors are also known as Default Cursors of SQL SERVER. These Cursors are allocated by SQL SERVER when the user performs DML operations.

2. **Explicit Cursors :-**

Explicit Cursors are Created by Users whenever the user requires them. Explicit Cursors are used for Fetching data from Table in Row-By-Row Manner.

How to create Explicit Cursor:-

1. Declare Cursor Object.

Syntax :-

DECLARE cursor_name CURSOR FOR SELECT * FROM table_name
DECLARE s1 CURSOR FOR SELECT * FROM studDetails

2. Open Cursor Connection.

Syntax :-

OPEN cursor_connection
OPEN s1

3. Fetch Data from cursor.

There are total 6 methods to access data from cursor.

They are as follows :-

FIRST is used to fetch only the first row from cursor table.
LAST is used to fetch only last row from cursor table.
NEXT is used to fetch data in forward direction from cursor table.
PRIOR is used to fetch data in backward direction from cursor table.
ABSOLUTE n is used to fetch the exact nth row from cursor table.
RELATIVE n is used to fetch the data in incremental way as well as decremental way.

Syntax :-

FETCH NEXT/FIRST/LAST/PRIOR/ABSOLUTE n/RELATIVE n FROM cursor_name

FETCH FIRST FROM s1
FETCH LAST FROM s1
FETCH NEXT FROM s1
FETCH PRIOR FROM s1
FETCH ABSOLUTE 7 FROM s1
FETCH RELATIVE -2 FROM s1

3. Close cursor connection.

Syntax :-

CLOSE cursor_name
CLOSE s1

4. Deallocate cursor memory.

Syntax :-

DEALLOCATE cursor_name
DEALLOCATE s1

SOURCE CODE TRIGGER

```
Create Trigger Flight_Update
After Insert on Reservation
For Each Row
Begin
If new.Class='F' Then
  Update Flight
  Set First_Seats_Bk = First_Seats_Bk + 1
  Where Flightno = new.Flightno and Flight_Date = new.Flight_Date;
ELSEIF new.Class='B' Then
      Update Flight
      Set Bus_Seats_Bk=Bus_Seats_Bk + 1
      Where Flightno = new.Flightno and Flight_Date = new.Flight_Date;
ELSEIF new.Class='E' Then
    Update Flight
    Set Eco_Seats_Bk = Eco_Seats_Bk + 1
    Where Flightno = new.Flightno and Flight_Date = new.Flight_Date;
END IF;
END
//
```

SOURCE CODE CURSOR

```
create procedure curproc()
begin
DECLARE mpnr int(5);
DECLARE mflightno CHAR(4);
DECLARE mflight_date date;
DECLARE mreserv_date date;
DECLARE mpass_name VARCHAR(20);
DECLARE mclass char(1);


DECLARE cursor_Reserv CURSOR
FOR SELECT Pnr,Flightno,Flight_Date,Reserv_Date,Pass_Name,Class
   FROM Reservation where Class='F';

OPEN cursor_Reserv;
```

```
FETCH NEXT FROM cursor_Reserv INTO
   mpnr,
   mflightno,
   mflight_date,
   mreserv_date,
   mpass_name,
   mclass;

LOOP
  insert into Passengers values(mpnr,mflightno,mflight_date,mreserv_date,mpass_name,mclass);
  FETCH NEXT FROM cursor_Reserv INTO
     mpnr,
     mflightno,
     mflight_date,
     mreserv_date,
     mpass_name,
     mclass;

End LOOP;
close cursor_Reserv;
end
//
```

Conclusion:-

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_____
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