Assignment No. 8

Assignment Title:Create a Library database with the schema
Books(AccNo,Title,Author,Publisher,Count).
a. Create a table Library_Audit with same fiels as of Books.
b. Create a before trigger to insert records into Librry_Audit table if there is deletion in
Books table.

Create a after trigger to insert records into Librry_Audit table if there is updation in Books table.

Trigger Code:

CREATE TABLE Library (AccNo NUMBER PRIMARY KEY, Title VARCHAR(100), Author
VARCHAR(100), Publisher VARCHAR(100), Count NUMBER);

CREATE TABLE Library_Audit (AccNo NUMBER, Title VARCHAR(100), Author
VARCHAR(100), Publisher VARCHAR(100), Count NUMBER, Action VARCHAR(10),
Timestamp TIMESTAMP);

INSERT INTO Library (AccNo, Title, Author, Publisher, Count) VALUES (1111, 'Book1',
'Author1', 'Pub1', 10);

INSERT INTO Library (AccNo, Title, Author, Publisher, Count) VALUES (2222, 'Book2',
'Author2', 'Pub2', 15);

INSERT INTO Library (AccNo, Title, Author, Publisher, Count) VALUES (3333, 'Book3',
'Author3', 'Pub3', 20);

SELECT * FROM Library;

Results Explain Describe Saved SQL History

ACCNO	TITLE	AUTHOR	PUBLISHER	COUNT
1111	Book1	Author1	Pub1	10
2222	Book2	Author2	Pub2	15
3333	Book3	Author3	Pub3	20

3 rows returned in 0.00 seconds   CSV Export

CREATE OR REPLACE TRIGGER Library_Audit_Trigger
AFTER DELETE OR UPDATE ON Library
FOR EACH ROW

```
DECLARE
  action1 VARCHAR2(10);
BEGIN
      IF DELETING THEN
      action1 := 'DELETE';
      ELSIF UPDATING THEN
      action1 := 'UPDATE';
      END IF;

      -- Insert old values into Library_Audit
      IF action1 IS NOT NULL THEN
      INSERT INTO Library_Audit (AccNo, Title, Author, Publisher, Count, Action,
Timestamp)
      VALUES (:OLD.AccNo, :OLD.Title, :OLD.Author, :OLD.Publisher, :OLD.Count,
action1, SYSTIMESTAMP);
      END IF;
END;
/
```

Performed in LAB

```
create table Library (Book_id NUMBER, title varchar(40), price NUMBER, copies NUMBER);

create table Library_audit (Book_id NUMBER, title varchar(40), price NUMBER, copies
NUMBER, action varchar(20), changedate date);

INSERT INTO Library VALUES(111, 'DBMS', 100, 2);
INSERT INTO Library VALUES(112, 'TOC', 180, 5);
INSERT INTO Library VALUES(113, 'CNS', 200, 1);
INSERT INTO Library VALUES(114, 'HCI', 50, 3);

SELECT * FROM Library;

CREATE OR REPLACE TRIGGER before_lib_update
BEFORE UPDATE ON Library FOR EACH ROW
BEGIN
INSERT INTO Library_audit VALUES (:OLD.Book_id, :OLD.title, :OLD.price,
:OLD.copies,'ÚPDATE',SYSDATE());
END;
/

update Library set title='C++' where Book_id=111;
SELECT * FROM Library;
```

--BEFORE DELETE

```
CREATE TRIGGER before_lib_delete
BEFORE DELETE ON Library FOR EACH ROW
BEGIN
INSERT INTO Library_audit VALUES (:OLD.Book_id, :OLD.title, :OLD.price,
:OLD.copies,'DELETE',SYSDATE());
END;
/
```