ASSIGNMENT NO – 07

STEP - 1 : Create **Library** and **Library_Audit** tables

```
SQL> CREATE TABLE Library (
  2    BookID NUMBER PRIMARY KEY,
  3    BookTitle VARCHAR2(100),
  4    Author VARCHAR2(100),
  5    Category VARCHAR2(50)
  6  );
Table created.

SQL> CREATE TABLE Library_Audit (
  2    AuditID NUMBER GENERATED BY DEFAULT AS IDENTITY PRIMARY KEY,
  3    Operation VARCHAR2(10),  -- Stores 'UPDATE' or 'DELETE'
  4    BookID NUMBER,
  5    BookTitle VARCHAR2(100),
  6    Author VARCHAR2(100),
  7    Category VARCHAR2(50),
  8    AuditTimestamp DATE DEFAULT SYSDATE -- Stores the date and time of the
operation
  9  );
Table created
```

STEP – 2: Create the Trigger

```
SQL> CREATE OR REPLACE TRIGGER trg1_Library_Audit BEFORE UPDATE OR
DELETE ON Library
  2  FOR EACH ROW
  3  BEGIN
  4    -- Insert the old values into the Library_Audit table before an update
  5    IF UPDATING THEN
  6      INSERT INTO Library_Audit (Operation, BookID, BookTitle, Author, Category)
  7      VALUES ('UPDATE', :OLD.BookID, :OLD.BookTitle, :OLD.Author,
:OLD.Category);
  8    END IF;
  9
 10    -- Insert the old values into the Library_Audit table before a delete
 11    IF DELETING THEN
 12      INSERT INTO Library_Audit (Operation, BookID, BookTitle, Author, Category)
 13      VALUES ('DELETE', :OLD.BookID, :OLD.BookTitle, :OLD.Author,
:OLD.Category);
 14    END IF;
 15  END trg_Library_Audit;
 16  /

Trigger created.
```

OUTPUT:
STEP 3 – Test the trigger

Insert Sample Data

SQL> INSERT INTO Library (BookID, BookTitle, Author, Category)
  2 VALUES (1, 'The Great Gatsby', 'F. Scott Fitzgerald', 'Fiction');
1 row created.

SQL> INSERT INTO Library (BookID, BookTitle, Author, Category)
  2 VALUES (2, '1984', 'George Orwell', 'Dystopian');
1 row created.

Update a record in the Library table
SQL> UPDATE Library SET BookTitle = 'Brave New World' WHERE BookID = 1;
1 row updated.

 Delete a record from the Library table
SQL> DELETE FROM Library WHERE BookID = 2;
1 row deleted.

SQL> SELECT * FROM Library_Audit;

AUDITID	OPERATION	BOOKID	BOOKTITLE	AUTHOR	CATEGORY	OLDVALUED
4	UPDATE	1	The Great Gatsby	F. Scott Fitzgerald	Fiction	19-SEP-24
5	DELETE	2	1984	George Orwell	Dystopian	19-SEP-24