/\*Write a database trigger on Library table. The System should keep track of the records that

are being updated or deleted. The old value of updated or deleted records should be added

in Library\_Audit table.\*/

create database ram;

use ram;

CREATE TABLE Library (

book\_id INT PRIMARY KEY,

title VARCHAR(255),

author VARCHAR(255),

publication\_year INT,

available\_copies INT

);

INSERT INTO Library (book\_id, title, author, publication\_year, available\_copies) VALUES

(1, 'The Great Gatsby', 'F. Scott Fitzgerald', 1925, 5),

(2, 'To Kill a Mockingbird', 'Harper Lee', 1960, 3),

(3, '1984', 'George Orwell', 1949, 8),

(4, 'Pride and Prejudice', 'Jane Austen', 1813, 2),

(5, 'Moby Dick', 'Herman Melville', 1851, 4),

(6, 'War and Peace', 'Leo Tolstoy', 1869, 1),

(7, 'The Catcher in the Rye', 'J.D. Salinger', 1951, 6),

(8, 'The Hobbit', 'J.R.R. Tolkien', 1937, 7);

CREATE TABLE Library\_Audit (

audit\_id INT AUTO\_INCREMENT PRIMARY KEY,

book\_id INT,

title VARCHAR(255),

author VARCHAR(255),

publication\_year INT,

available\_copies INT,

action VARCHAR(10), -- 'UPDATE' or 'DELETE'

action\_time TIMESTAMP DEFAULT CURRENT\_TIMESTAMP

);

DELIMITER $$

CREATE TRIGGER before\_library\_update

BEFORE UPDATE ON Library

FOR EACH ROW

BEGIN

INSERT INTO Library\_Audit (book\_id, title, author, publication\_year, available\_copies, action)

VALUES (OLD.book\_id, OLD.title, OLD.author, OLD.publication\_year, OLD.available\_copies, 'UPDATE');

END $$

DELIMITER ;

DELIMITER $$

CREATE TRIGGER before\_library\_delete

BEFORE DELETE ON Library

FOR EACH ROW

BEGIN

INSERT INTO Library\_Audit (book\_id, title, author, publication\_year, available\_copies, action)

VALUES (OLD.book\_id, OLD.title, OLD.author, OLD.publication\_year, OLD.available\_copies, 'DELETE');

END $$

DELIMITER ;

-- Insert some test data

INSERT INTO Library (book\_id, title, author, publication\_year, available\_copies) VALUES

(1, 'The Great Gatsby', 'F. Scott Fitzgerald', 1925, 5),

(2, 'To Kill a Mockingbird', 'Harper Lee', 1960, 3);

-- Update a record

UPDATE Library SET available\_copies = 4 WHERE book\_id = 1;

-- Delete a record

DELETE FROM Library WHERE book\_id = 2;

-- Check the audit log

SELECT \* FROM Library\_Audit;

select \* from library;