BookHaven

your escape from reality,
one book at a time

SQL Queries & Tables

Aaradhya Verma, Mohmmad Ayaan
& Ritika Thakur

for **DBMS Project: CSE202**

22 January, 2024

Queries Used:
 -- creating the database
CREATE DATABASE BookHaven;
USE BookHaven;

-- creating table customer
CREATE TABLE Customer (
    customer_id INT AUTO_INCREMENT UNIQUE NOT NULL PRIMARY KEY, -- customer_id is unique, not null and the primary key and is auto-incremented
    first_name VARCHAR(50) NOT NULL, -- first name is not null
    last_name VARCHAR(50) NOT NULL, -- last name is not null
    pincode INT NOT NULL, -- pincode is not null
    address VARCHAR(200) NOT NULL, -- address is not null
    contact VARCHAR(15) NOT NULL, -- contact is not null
    date_of_birth DATE NOT NULL, -- dob is not null
    email VARCHAR(50) NOT NULL UNIQUE, -- email is unique and not null
    passkey VARCHAR(10) NOT NULL, -- passkey is not null
    amount DECIMAL(5, 2)
);

CREATE TABLE Book (
    book_id INT AUTO_INCREMENT UNIQUE NOT NULL PRIMARY KEY, -- book_id is unique, not null and the primary key and is auto-incremented
    book_name VARCHAR(100) NOT NULL, -- book name is not null
    author_name VARCHAR(100) NOT NULL, -- author name is not null
    genre VARCHAR(100) NOT NULL, -- genre is not null
    price DECIMAL(5, 2) NOT NULL -- price is not null
);

CREATE TABLE reviews (
    review_id INT AUTO_INCREMENT UNIQUE NOT NULL PRIMARY KEY, -- review_id is unique, not null and the primary key and is auto-incremented
    review_body VARCHAR(1000),
    rating DECIMAL(1, 1) DEFAULT 0.0 -- default rating set to 0
);

CREATE TABLE Admin (
    username VARCHAR(50) UNIQUE NOT NULL PRIMARY KEY, -- username is unique, not null and the promary key for admin
    passkey VARCHAR(15) NOT NULL, -- passkey is not null
    customer_id INT,
    FOREIGN KEY(customer_id) REFERENCES customer(customer_id), -- customer_id is the foreign key
    book_id INT,

```sql
    FOREIGN KEY(book_id) REFERENCES book(book_id), -- book_id is the foreign key
    review_id INT,
    FOREIGN KEY(review_id) REFERENCES reviews(review_id)-- review_id is the foreign key
);

-- Insert rows into the Customer table
INSERT INTO customer (first_name, last_name, pincode, address, contact, date_of_birth, email, passkey, amount)
VALUES
('John', 'Doe', 123456, '123 Main St, Cityville', '123-456-7890', '1990-05-15', 'john.doe@gmail.com', 'password1', 20.00),
('Jane', 'Smith', 234567, '456 Elm St, Townsville', '987-654-3210', '1985-10-20', 'jane.smith@gmail.com', 'password2', 15.00),
('Alice', 'Johnson', 345678, '789 Oak St, Villageton', '111-222-3333', '1995-03-25', 'alice.johnson@gmail.com', 'password3', 8.00),
('Bob', 'Brown', 456789, '321 Pine St, Hamletville', '444-555-6666', '1988-08-10', 'bob.brown@gmail.com', 'password4', 20.00),
('Emily', 'Davis', 567890, '654 Cedar St, Countryside', '777-888-9999', '1992-12-05', 'emily.davis@gmail.com', 'password5', 120.00),
('Michael', 'Wilson', 678901, '987 Maple St, Suburbia', '222-333-4444', '1980-07-30', 'michael.wilson@gmail.com', 'password6', 18.00),
('Sarah', 'Martinez', 789012, '741 Birch St, Metropolis', '555-666-7777', '1998-01-18', 'sarah.martinez@gmail.com', 'password7', 90.00),
('David', 'Garcia', 890123, '369 Walnut St, Uptown', '888-999-0000', '1983-06-12', 'david.garcia@gmail.com', 'password8', 10.00),
('Olivia', 'Lopez', 901234, '852 Spruce St, Downtown', '333-444-5555', '1994-09-22', 'olivia.lopez@gmail.com', 'password9', 11.00),
('James', 'Rodriguez', 112233, '159 Fir St, Outskirts', '666-777-8888', '1987-04-07', 'james.rodriguez@gmail.com', 'password10', 14.00),
('Sophia', 'Hernandez', 223344, '963 Oak St, Riverside', '999-000-1111', '1996-06-03', 'sophia.hernandez@gmail.com', 'password11', 13.00),
('William', 'Gonzalez', 334455, '741 Pine St, Lakeside', '222-333-4444', '1982-11-14', 'william.gonzalez@gmail.com', 'password12', 16.00);

-- Insert rows into the Book table
INSERT INTO book (book_name, author_name, genre, price)
VALUES
('The Catcher in the Rye', 'J.D. Salinger', 'Literary Fiction', ROUND(RAND() * (12.5 - 2.50) + 2.50, 2)),
('To Kill a Mockingbird', 'Harper Lee', 'Classic', ROUND(RAND() * (12.50 - 2.50) + 2.50, 2)),
('Pride and Prejudice', 'Jane Austen', 'Romance', ROUND(RAND() * (12.50 - 2.50) + 2.50, 2)),
```

```sql
('The Great Gatsby', 'F. Scott Fitzgerald', 'Classic', ROUND(RAND() * (12.50 - 2.50) + 2.50, 2)),
('Moby-Dick', 'Herman Melville', 'Adventure', ROUND(RAND() * (12.50 - 2.50) + 2.50, 2)),
('Brave New World', 'Aldous Huxley', 'Dystopian', ROUND(RAND() * (12.50 - 2.50) + 2.50, 2)),
('Frankenstein', 'Mary Shelley', 'Gothic', ROUND(RAND() * (12.50 - 2.50) + 2.50, 2)),
('1984', 'George Orwell', 'Dystopian', ROUND(RAND() * (12.50 - 2.50) + 2.50, 2)),
('The Odyssey', 'Homer', 'Epic Poetry', ROUND(RAND() * (12.50 - 2.50) + 2.50, 2)),
('The Hobbit', 'J.R.R. Tolkien', 'Fantasy', ROUND(RAND() * (12.50 - 2.50) + 2.50, 2));

ALTER TABLE reviews
MODIFY COLUMN rating DECIMAL(2,2); -- modifying type

-- inserting row into admin
INSERT INTO admin(username, passkey)
VALUES
('admin1', '123456');

ALTER TABLE reviews
MODIFY COLUMN rating INT; -- modifying type

-- inserting into reviews
INSERT INTO reviews (review_body, rating)
VALUES
('Great book, loved the storyline!', FLOOR(RAND() * 6)),
('Highly recommend, a must-read!', FLOOR(RAND() * 6)),
('Amazing characters and plot!', FLOOR(RAND() * 6)),
("Couldn't put it down!", FLOOR(RAND() * 6)),
('Interesting read, enjoyed it!', FLOOR(RAND() * 6)),
('Engaging from start to finish!', FLOOR(RAND() * 6)),
('A classic that never gets old.', FLOOR(RAND() * 6)),
('Captivating and thought-provoking.', FLOOR(RAND() * 6)),
('Highly imaginative and thrilling!', FLOOR(RAND() * 6)),
('A journey worth taking.', FLOOR(RAND() * 6));

ALTER TABLE reviews
ADD customer_id INT,
ADD book_id INT;

- adding foreign keys for reviews
ALTER TABLE reviews
ADD CONSTRAINT fkr_customer_id
FOREIGN KEY (customer_id) REFERENCES customer(customer_id),
ADD CONSTRAINT fkr_book_id
```

```sql
    FOREIGN KEY (book_id) REFERENCES book (book_id);

SELECT * FROM reviews;

ALTER TABLE reviews
MODIFY rating INT NOT NULL; -- making rating not null

ALTER TABLE customer
ADD owned_books INT;

-- adding foreign keys to customer
ALTER TABLE customer
ADD CONSTRAINT fkc_book_id
FOREIGN KEY (owned_books) REFERENCES book(book_id);

-- creating table for the weak entity order
CREATE TABLE `order` (
   order_id INT AUTO_INCREMENT PRIMARY KEY,
   coupon VARCHAR(50),
   quantity INT,
   total_cost DECIMAL(10, 2),
   e_wallet DECIMAL(10, 2),
   upi VARCHAR(20),
   cod BOOLEAN,
   credit_debit_cards BOOLEAN,
   book_id INT,
   customer_id INT,
   FOREIGN KEY (book_id) REFERENCES Book(book_id),
   FOREIGN KEY (customer_id) REFERENCES Customer(customer_id)
);
-- adding trigger to ensure user is 13+
DELIMITER $$
CREATE TRIGGER check_age_before_insert_update
BEFORE INSERT ON customer
FOR EACH ROW
BEGIN
   IF DATEDIFF(NOW(), NEW.date_of_birth) < 4745 THEN
      SIGNAL SQLSTATE '45000'
      SET MESSAGE_TEXT = 'Age must be 13 or older';
   END IF;
END$$
DELIMITER ;

-- creating many-to-many relationship table browses between book and customer
```

```
CREATE TABLE Browses (
    book_id INT,
    customer_id INT,
    PRIMARY KEY (book_id, customer_id),
    FOREIGN KEY (book_id) REFERENCES Book(book_id),
    FOREIGN KEY (customer_id) REFERENCES Customer(customer_id)
);
```

Book Table

book_id	book_name	author_name	genre	price
1	The Catcher in the Rye	J.D. Salinger	Literary Fiction	8.05
2	To Kill a Mockingbird	Harper Lee	Classic	2.54
3	Pride and Prejudice	Jane Austen	Romance	6.07
4	The Great Gatsby	F. Scott Fitzgerald	Classic	10.23
5	Moby-Dick	Herman Melville	Adventure	10.45
6	Brave New World	Aldous Huxley	Dystopian	9.04
7	Frankenstein	Mary Shelley	Gothic	11.34
8	1984	George Orwell	Dystopian	7.10
9	The Odyssey	Homer	Epic Poetry	8.99
10	The Hobbit	J.R.R. Tolkien	Fantasy	11.14
NULL	NULL	NULL	NULL	NULL

User Table

customer_id	first_name	last_name	pincode	address	contact	date_of_birth	email	passkey	amount	owned_books
1	John	Doe	123456	123 Main St, Cityville	123-456-7890	1990-05-15	john.doe@gmail.com	password1	20.00	NULL
2	Jane	Smith	234567	456 Elm St, Townsville	987-654-3210	1985-10-20	jane.smith@gmail.com	password2	15.00	NULL
3	Alice	Johnson	345678	789 Oak St, Villageton	111-222-3333	1995-03-25	alice.johnson@gmail.com	password3	8.00	NULL
4	Bob	Brown	456789	321 Pine St, Hamletville	444-555-6666	1988-08-10	bob.brown@gmail.com	password4	20.00	NULL
5	Emily	Davis	567890	654 Cedar St, Countryside	777-888-9999	1992-12-05	emily.davis@gmail.com	password5	120.00	NULL
6	Michael	Wilson	678901	987 Maple St, Suburbia	222-333-4444	1980-07-30	michael.wilson@gmail.com	password6	18.00	NULL
7	Sarah	Martinez	789012	741 Birch St, Metropolis	555-666-7777	1998-01-18	sarah.martinez@gmail.com	password7	90.00	NULL
8	David	Garcia	890123	369 Walnut St, Uptown	888-999-0000	1983-06-12	david.garcia@gmail.com	password8	10.00	NULL
9	Olivia	Lopez	901234	852 Spruce St, Downtown	333-444-5555	1994-09-22	olivia.lopez@gmail.com	password9	11.00	NULL
10	James	Rodriguez	112233	159 Fir St, Outskirts	666-777-8888	1987-04-07	james.rodriguez@gmail.com	password10	14.00	NULL
11	Sophia	Hernandez	223344	963 Oak St, Riverside	999-000-1111	1996-06-03	sophia.hernandez@gmail.com	password11	13.00	NULL
12	William	Gonzalez	334455	741 Pine St, Lakeside	222-333-4444	1982-11-14	william.gonzalez@gmail.com	password12	16.00	NULL
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Review Table

review_id	review_body	rating	customer_id	book_id
1	Great book, loved the storyline!	1	NULL	NULL
2	Highly recommend, a must-read!	0	NULL	NULL
3	Amazing characters and plot!	2	NULL	NULL
4	Couldn't put it down!	5	NULL	NULL
5	Interesting read, enjoyed it!	5	NULL	NULL
6	Engaging from start to finish!	1	NULL	NULL
7	A classic that never gets old.	1	NULL	NULL
8	Captivating and thought-provoking.	3	NULL	NULL
9	Highly imaginative and thrilling!	1	NULL	NULL
10	A journey worth taking.	2	NULL	NULL
NULL	NULL	NULL	NULL	NULL

Admin Table

username	passkey	customer_id	book_id	review_id
admin1	123456	NULL	NULL	NULL
NULL	NULL	NULL	NULL	NULL

Order Table

order_id	coupon	quantity	total_cost	e_wallet	upi	cod	credit_debit_cards	book_id	customer_id
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Browses Table (relationship)

book_id	customer_id
NULL	NULL

Contributions:

- **Aaradhya Verma (2022004)** : provided table rows for **Book Review** and **User** element.
- **Mohmmad Ayaan (2022302)**: added rows for **Browsing** weak element.
- **Ritika Thakur (2022408)**: **Spearheaded** the whole submission, **created the database** and **generated table-creation queries**.