

**Pakistan Institute of Engineering and
Applied Sciences**



NAME: HAJRA

BATCH: 2022 – 26

DEPARTMENT: CIS

REG NO: 03-3-1-020-2022

SUBMITTED TO: SIR IRFAN HAMEED

REPORT ON MOVIE RENTAL SYSTEM

ONLINE MOVIE RENTAL SYSTEM

INTRODUCTION:

The Movie Rental System is a comprehensive database solution designed to manage and streamline the operations of a movie rental business. The system facilitates efficient tracking of customers, rentals, payments, and staff responsibilities while ensuring a seamless user experience. By leveraging an organized database structure, the Movie Rental System aims to minimize errors, reduce redundancy, and improve the overall management of business processes.

The system provides a centralized repository for storing information about movies, customers, rentals, payments, and staff. It enables customers to rent movies and make payments, while staff members can manage rental activities and assist customers efficiently. The system ensures that all data is properly organized, with relationships between entities clearly defined, such as customers renting movies, rentals generating payments, and staff managing customer interactions.

ENTITIES:

The main entities involved in the Movie Rental System are:

1. **Customer:** Represents customers who rent movies.
2. **Movie:** Represents movies available for rent.
3. **Rental:** Tracks the movie rental details.
4. **Payment:** Stores payment details made for rentals.
5. **Staff:** Represents employees managing the rental process and assisting customers.

ATTRIBUTES:

Customer

- customer_id (Primary Key)
- name
- contact
- address

Payment

- payment_id (Primary Key)

- amount
- payment_date
- rental_id (Foreign Key referencing Rental.rental_id)
- customer_id (Foreign Key referencing Customer.customer_id)

Movie

- movie_id (Primary Key)
- title
- genre
- release_year
- rental_rate

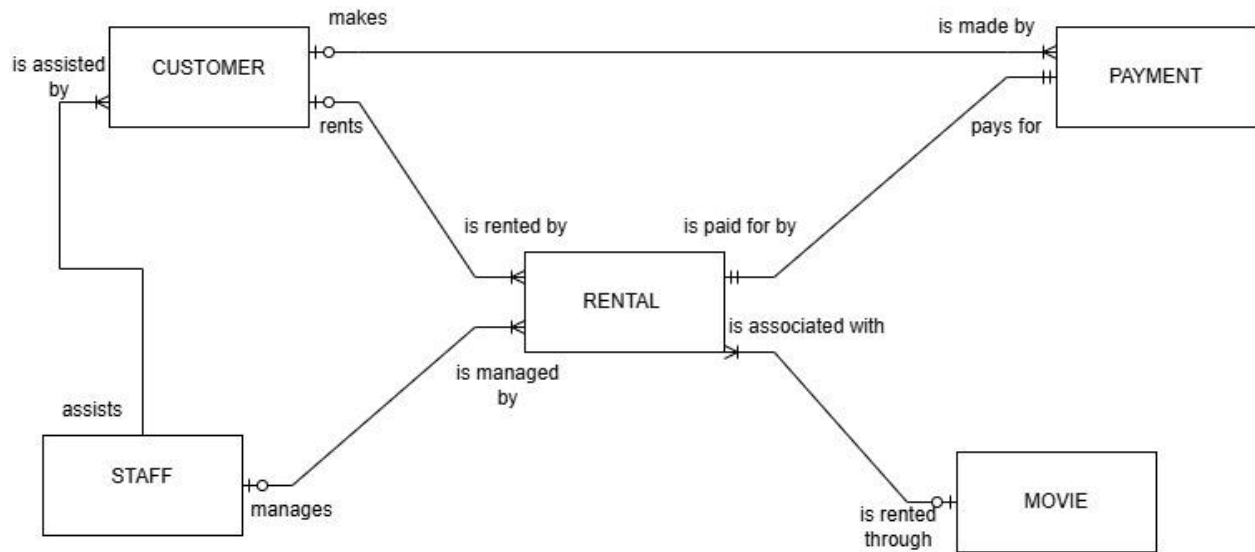
Staff

- staff_id (Primary Key)
- name
- contact
- role

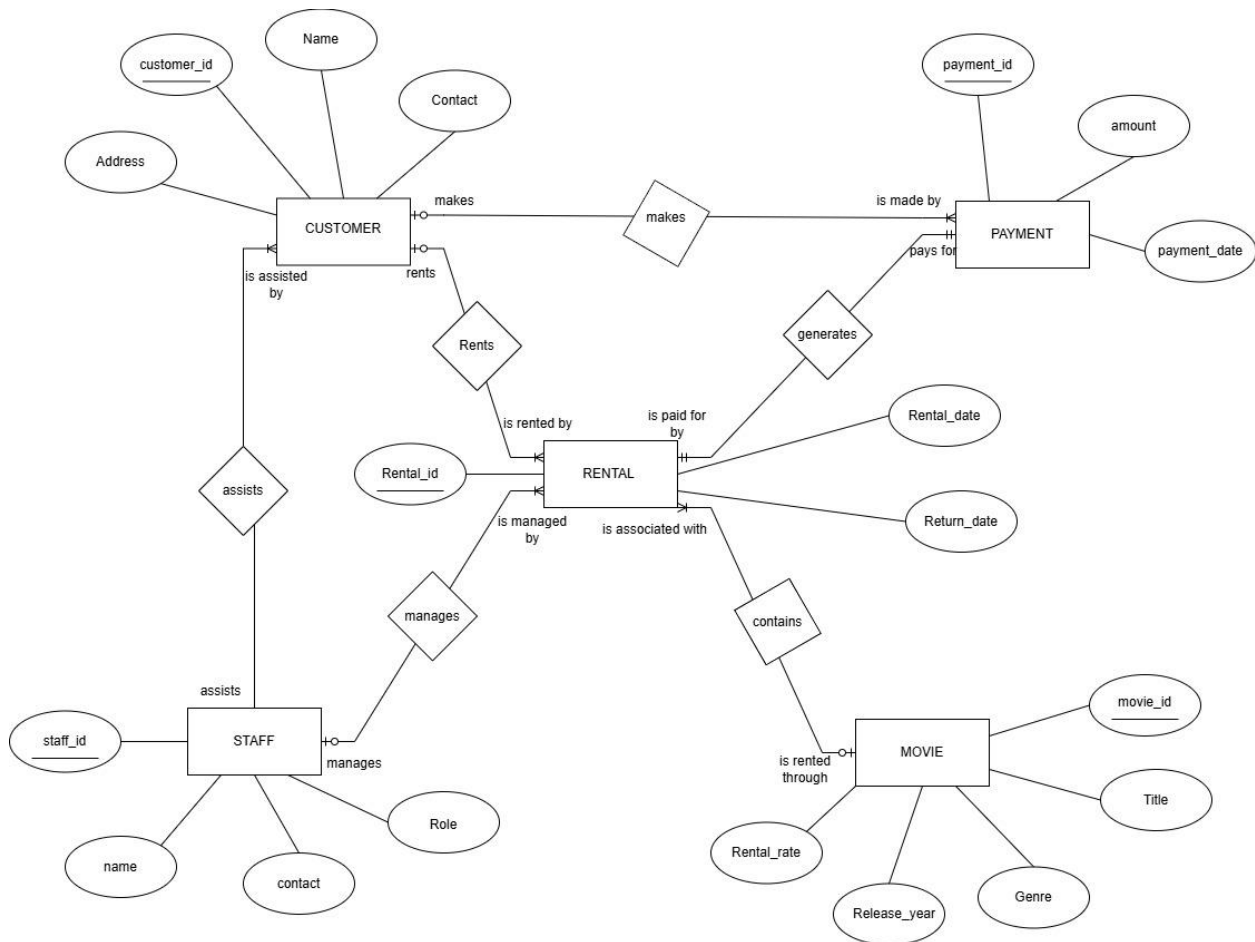
Rental

- rental_id (Primary Key)
- rental_date
- return_date
- customer_id (Foreign Key referencing Customer.customer_id)
- staff_id (Foreign Key referencing Staff.staff_id)

ENTITY RELATIONSHIP DIAGRAM:



ENTITY RELATIONSHIP MODEL:



RELATIONAL MODEL:

CUSTOMER

<u>Customer_ID</u>	Name	Contact	Address
--------------------	------	---------	---------

PAYMENT

<u>Payment_ID</u>	Amount	Payment_date
-------------------	--------	--------------

MOVIE

<u>Movie_ID</u>	Title	Genre	Release_year	Rental_rate
-----------------	-------	-------	--------------	-------------

STAFF

<u>Staff_ID</u>	Name	Contact	Role
-----------------	------	---------	------

RENTAL

<u>Rental_ID</u>	Renta_date	Return_date
------------------	------------	-------------

COMPLETE RELATIONAL MODEL:

CUSTOMER

<u>Customer_ID</u>	Name	Contact	Address
--------------------	------	---------	---------

PAYMENT

<u>Payment_ID</u>	Amount	Payment_date	<u>Rental_ID</u> -----	<u>Customer_ID</u> -----
-------------------	--------	--------------	---------------------------	-----------------------------

MOVIE

<u>Movie_ID</u>	Title	Genre	Release_year	Rental_rate
-----------------	-------	-------	--------------	-------------

STAFF

<u>Staff_ID</u>	Name	Contact	Role
-----------------	------	---------	------

RENTAL

<u>Rental_ID</u>	Renta_date	Return_date	<u>Customer_ID</u> -----	<u>Staff_ID</u> -----
------------------	------------	-------------	-----------------------------	--------------------------

NORMALIZED SCHEMA:

CUSTOMER

<u>Customer_ID</u>	Name	Address
--------------------	------	---------

Customer_ID	Contact
-------------	---------

PAYMENT

<u>Payment_ID</u>	Amount	Payment_date	<u>Rental_ID</u> -----	<u>Customer_ID</u> -----
-------------------	--------	--------------	---------------------------	-----------------------------

Movie_ID	Genre
----------	-------

MOVIE

<u>Movie_ID</u>	Title	Genre	Release_year	Rental_rate
-----------------	-------	-------	--------------	-------------

Staff_ID	Contact
----------	---------

STAFF

<u>Staff_ID</u>	Name	Role
-----------------	------	------

RENTAL

<u>Rental_ID</u>	Renta_date	Return_date	<u>Customer_ID</u> -----	<u>Staff_ID</u> -----
------------------	------------	-------------	-----------------------------	--------------------------

SQL QUERIES:

- **TABLE CREATION:**

CUSTOMER TABLE:

```
CREATE TABLE CUSTOMER (  
    customer_id INT PRIMARY KEY,  
    name VARCHAR2(100) NOT NULL,  
    contact VARCHAR2(15),  
    address VARCHAR2(200)  
);
```

```
CREATE TABLE CUSTOMER (  
    customer_id INT PRIMARY KEY,  
    name VARCHAR2(100) NOT NULL,  
    contact VARCHAR2(15),  
    address VARCHAR2(200)  
);
```

Output:

```
Table created.
```

```
0.05 seconds
```

RENTAL TABLE:

```
CREATE TABLE RENTAL (  
    rental_id INT PRIMARY KEY,  
    rental_date DATE NOT NULL,  
    return_date DATE,  
    customer_id INT,  
    staff_id INT,
```

```
FOREIGN KEY (customer_id) REFERENCES CUSTOMER(customer_id),  
FOREIGN KEY (staff_id) REFERENCES STAFF(staff_id)  
);  
  
CREATE TABLE RENTAL (  
    rental_id INT PRIMARY KEY,  
    rental_date DATE NOT NULL,  
    return_date DATE,  
    customer_id INT,  
    staff_id INT,  
    FOREIGN KEY (customer_id) REFERENCES CUSTOMER(customer_id)  
);
```

Output:

```
Table created.
```

```
0.02 seconds
```

PAYMENT TABLE:

```
CREATE TABLE PAYMENT (  
    payment_id INT PRIMARY KEY,  
    amount DECIMAL(10, 2) NOT NULL,  
    payment_date DATE NOT NULL,  
    rental_id INT,  
    customer_id INT,  
    FOREIGN KEY (rental_id) REFERENCES RENTAL(rental_id),  
    FOREIGN KEY (customer_id) REFERENCES CUSTOMER(customer_id)  
);
```

```
CREATE TABLE PAYMENT (  
    payment_id INT PRIMARY KEY,  
    amount DECIMAL(10, 2) NOT NULL,  
    payment_date DATE NOT NULL,  
    rental_id INT,  
    customer_id INT,  
    FOREIGN KEY (rental_id) REFERENCES RENTAL(rental_id),  
    FOREIGN KEY (customer_id) REFERENCES CUSTOMER(customer_id)  
);
```

Output:

```
Table created.
```

```
0.02 seconds
```

MOVIE TABLE:

```
CREATE TABLE MOVIE (  
    movie_id INT PRIMARY KEY,  
    title VARCHAR2(150) NOT NULL,  
    genre VARCHAR2(50),  
    release_year INT,  
    rental_rate DECIMAL(6, 2) NOT NULL  
);
```

```
CREATE TABLE MOVIE (  
    movie_id INT PRIMARY KEY,  
    title VARCHAR2(150) NOT NULL,  
    genre VARCHAR2(50),  
    release_year INT,  
    rental_rate DECIMAL(6, 2) NOT NULL  
);
```

Output:

```
Table created.
```

```
0.02 seconds
```

STAFF TABLE:

```
CREATE TABLE STAFF (  
    staff_id INT PRIMARY KEY,  
    name VARCHAR2(100) NOT NULL,  
    contact VARCHAR2(15),  
    role VARCHAR2(50)  
);
```

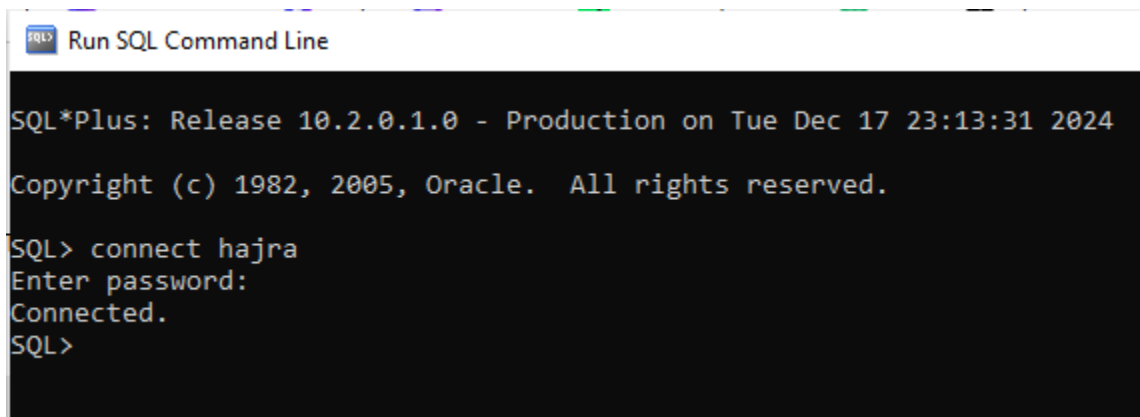
```
CREATE TABLE STAFF (  
    staff_id INT PRIMARY KEY,  
    name VARCHAR2(100) NOT NULL,  
    contact VARCHAR2(15),  
    role VARCHAR2(50)  
);
```

Output:

```
Table created.
```

```
0.02 seconds
```

- **DATA INSERTION:**

A screenshot of a 'Run SQL Command Line' window. The window has a title bar with a small icon and the text 'Run SQL Command Line'. The main area is a black terminal with white text. It shows the SQL*Plus release information: 'SQL*Plus: Release 10.2.0.1.0 - Production on Tue Dec 17 23:13:31 2024' and 'Copyright (c) 1982, 2005, Oracle. All rights reserved.' Below this, the user enters 'SQL> connect hajra', the prompt asks 'Enter password:', the user enters a password (not visible), and the prompt says 'Connected.' followed by 'SQL>'.

CUSTOMER TABLE:

INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (1, 'Ali Khan', '03001234567', 'House #123, Islamabad');

INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (2, 'Ayesha Noor', '03111223344', 'Flat #456, Karachi');

INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (3, 'Bilal Ahmed', '03215678901', 'Street #10, Lahore');

INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (4, 'Sara Yousuf', '03335467891', 'Plot #22, Multan');

INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (5, 'Hassan Raza', '03451234567', 'Block C, Rawalpindi');

INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (6, 'Fatima Tariq', '03566778899', 'Sector D, Peshawar');

INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (7, 'Zainab Malik', '03677889900', 'House #88, Quetta');

INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (8, 'Umar Farooq', '03788990011', 'Flat #12, Faisalabad');

INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (9, 'Laiba Aslam', '03899900112', 'Apartment #7, Sialkot');

INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (10, 'Noman Ali', '03911223344', 'Street #5, Hyderabad');

INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (11, 'Rabia Khan', '03007654321', 'Plot #99, Islamabad');

```
INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (12, 'Sajid Mehmood', '03119876543', 'Block A, Lahore');
```

```
INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (13, 'Hina Saeed', '03210987654', 'Sector B, Karachi');
```

```
INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (14, 'Farhan Qureshi', '03312340987', 'House #15, Multan');
```

```
INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (15, 'Iqra Shah', '03422334455', 'Apartment #9, Faisalabad');
```

```
INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (16, 'Yasir Abbas', '03533445566', 'Street #3, Peshawar');
```

```
INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (17, 'Komal Riaz', '03644556677', 'House #5, Rawalpindi');
```

```
INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (18, 'Tariq Javed', '03755667788', 'Flat #18, Sialkot');
```

```
INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (19, 'Nida Hussain', '03866778899', 'Block F, Quetta');
```

```
INSERT INTO CUSTOMER (customer_id, name, contact, address) VALUES (20, 'Adnan Yousuf', '03977889900', 'Sector H, Islamabad');
```

☒ Autocommit
 Display 10

SELECT * FROM CUSTOMER

[Results](#)
[Explain](#)
[Describe](#)
[Saved SQL](#)
[History](#)

CUSTOMER_ID	NAME	CONTACT	ADDRESS
10	Noman Ali	03911223344	Street #5, Hyderabad
11	Rabia Khan	03007654321	Plot #99, Islamabad
12	Sajid Mehmood	03119876543	Block A, Lahore
13	Hina Saeed	03210987654	Sector B, Karachi
16	Yasir Abbas	03533445566	Street #3, Peshawar
17	Komal Riaz	03644556677	House #5, Rawalpindi
18	Tariq Javed	03755667788	Flat #18, Sialkot
19	Nida Hussain	03866778899	Block F, Quetta
20	Adnan Yousuf	03977889900	Sector H, Islamabad
1	Ali Khan	03001234567	House #123, Islamabad

More than 10 rows available. Increase rows selector to view more rows.

10 rows returned in 0.00 seconds
 [CSV Export](#)

RENTAL TABLE:

INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES (1, TO_DATE('2024-07-01', 'YYYY-MM-DD'), TO_DATE('2024-07-05', 'YYYY-MM-DD'), 1, 1);

INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES (2, TO_DATE('2024-07-02', 'YYYY-MM-DD'), TO_DATE('2024-07-06', 'YYYY-MM-DD'), 2, 2);

INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES (3, TO_DATE('2024-07-03', 'YYYY-MM-DD'), TO_DATE('2024-07-07', 'YYYY-MM-DD'), 3, 3);

INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES (4, TO_DATE('2024-07-04', 'YYYY-MM-DD'), TO_DATE('2024-07-08', 'YYYY-MM-DD'), 4, 4);

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES (5,
TO_DATE('2024-07-05', 'YYYY-MM-DD'), TO_DATE('2024-07-09', 'YYYY-MM-DD'), 5, 5);
```

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES (6,
TO_DATE('2024-07-06', 'YYYY-MM-DD'), TO_DATE('2024-07-10', 'YYYY-MM-DD'), 6, 6);
```

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES (7,
TO_DATE('2024-07-07', 'YYYY-MM-DD'), TO_DATE('2024-07-11', 'YYYY-MM-DD'), 7, 7);
```

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES (8,
TO_DATE('2024-07-08', 'YYYY-MM-DD'), TO_DATE('2024-07-12', 'YYYY-MM-DD'), 8, 8);
```

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES (9,
TO_DATE('2024-07-09', 'YYYY-MM-DD'), TO_DATE('2024-07-13', 'YYYY-MM-DD'), 9, 9);
```

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES
(10, TO_DATE('2024-07-10', 'YYYY-MM-DD'), TO_DATE('2024-07-14', 'YYYY-MM-DD'),
10, 10);
```

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES
(11, TO_DATE('2024-07-11', 'YYYY-MM-DD'), TO_DATE('2024-07-15', 'YYYY-MM-DD'),
11, 11);
```

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES
(12, TO_DATE('2024-07-12', 'YYYY-MM-DD'), TO_DATE('2024-07-16', 'YYYY-MM-DD'),
12, 12);
```

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES
(13, TO_DATE('2024-07-13', 'YYYY-MM-DD'), TO_DATE('2024-07-17', 'YYYY-MM-DD'),
13, 13);
```

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES
(14, TO_DATE('2024-07-14', 'YYYY-MM-DD'), TO_DATE('2024-07-18', 'YYYY-MM-DD'),
14, 14);
```

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES
(15, TO_DATE('2024-07-15', 'YYYY-MM-DD'), TO_DATE('2024-07-19', 'YYYY-MM-DD'),
15, 15);
```

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES
(16, TO_DATE('2024-07-16', 'YYYY-MM-DD'), TO_DATE('2024-07-20', 'YYYY-MM-DD'),
16, 16);
```

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES
(17, TO_DATE('2024-07-17', 'YYYY-MM-DD'), TO_DATE('2024-07-21', 'YYYY-MM-DD'),
17, 17);
```

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES
(18, TO_DATE('2024-07-18', 'YYYY-MM-DD'), TO_DATE('2024-07-22', 'YYYY-MM-DD'),
18, 18);
```

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES
(19, TO_DATE('2024-07-19', 'YYYY-MM-DD'), TO_DATE('2024-07-23', 'YYYY-MM-DD'),
19, 19);
```

```
INSERT INTO RENTAL (rental_id, rental_date, return_date, customer_id, staff_id) VALUES
(20, TO_DATE('2024-07-20', 'YYYY-MM-DD'), TO_DATE('2024-07-24', 'YYYY-MM-DD'),
20, 20);
```

User: HAJRA

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

SELECT * FROM RENTAL

Results Explain Describe Saved SQL History

RENTAL_ID	RENTAL_DATE	RETURN_DATE	CUSTOMER_ID	STAFF_ID
1	01-JUL-24	05-JUL-24	1	1
2	02-JUL-24	06-JUL-24	2	2
3	03-JUL-24	07-JUL-24	3	3
4	04-JUL-24	08-JUL-24	4	4
5	05-JUL-24	09-JUL-24	5	5
6	06-JUL-24	10-JUL-24	6	6
7	07-JUL-24	11-JUL-24	7	7
8	08-JUL-24	12-JUL-24	8	8
9	09-JUL-24	13-JUL-24	9	9
10	10-JUL-24	14-JUL-24	10	10

More than 10 rows available. Increase rows selector to view more rows.

10 rows returned in 0.01 seconds [CSV Export](#)

PAYMENT TABLE:

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)
VALUES (1, 10.00, TO_DATE('2024-07-01', 'YYYY-MM-DD'), 1, 1);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)
VALUES (2, 12.50, TO_DATE('2024-07-02', 'YYYY-MM-DD'), 2, 2);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)
VALUES (3, 8.75, TO_DATE('2024-07-03', 'YYYY-MM-DD'), 3, 3);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)
VALUES (4, 15.00, TO_DATE('2024-07-04', 'YYYY-MM-DD'), 4, 4);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)
VALUES (5, 9.50, TO_DATE('2024-07-05', 'YYYY-MM-DD'), 5, 5);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)
VALUES (6, 11.00, TO_DATE('2024-07-06', 'YYYY-MM-DD'), 6, 6);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)
VALUES (7, 14.25, TO_DATE('2024-07-07', 'YYYY-MM-DD'), 7, 7);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)
VALUES (8, 10.50, TO_DATE('2024-07-08', 'YYYY-MM-DD'), 8, 8);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)
VALUES (9, 13.00, TO_DATE('2024-07-09', 'YYYY-MM-DD'), 9, 9);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)
```

```
VALUES (10, 12.00, TO_DATE('2024-07-10', 'YYYY-MM-DD'), 10, 10);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)  
VALUES (11, 16.00, TO_DATE('2024-07-11', 'YYYY-MM-DD'), 11, 11);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)  
VALUES (12, 7.25, TO_DATE('2024-07-12', 'YYYY-MM-DD'), 12, 12);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)  
VALUES (13, 18.00, TO_DATE('2024-07-13', 'YYYY-MM-DD'), 13, 13);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)  
VALUES (14, 10.00, TO_DATE('2024-07-14', 'YYYY-MM-DD'), 14, 14);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)  
VALUES (15, 9.00, TO_DATE('2024-07-15', 'YYYY-MM-DD'), 15, 15);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)  
VALUES (16, 13.75, TO_DATE('2024-07-16', 'YYYY-MM-DD'), 16, 16);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)  
VALUES (17, 8.00, TO_DATE('2024-07-17', 'YYYY-MM-DD'), 17, 17);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)  
VALUES (18, 14.50, TO_DATE('2024-07-18', 'YYYY-MM-DD'), 18, 18);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)  
VALUES (19, 11.25, TO_DATE('2024-07-19', 'YYYY-MM-DD'), 19, 19);
```

```
INSERT INTO PAYMENT (payment_id, amount, payment_date, rental_id, customer_id)
VALUES (20, 15.25, TO_DATE('2024-07-20', 'YYYY-MM-DD'), 20, 20);
```

User: HAJRA

Home > SQL > **SQL Commands**

☒ Autocommit Display

SELECT * FROM PAYMENT

Results Explain Describe Saved SQL History

PAYMENT_ID	AMOUNT	PAYMENT_DATE	RENTAL_ID	CUSTOMER_ID
1	10	01-JUL-24	1	1
2	12.5	02-JUL-24	2	2
7	14.25	07-JUL-24	7	7
8	10.5	08-JUL-24	8	8
9	13	09-JUL-24	9	9
10	12	10-JUL-24	10	10
11	16	11-JUL-24	11	11
12	7.25	12-JUL-24	12	12
13	18	13-JUL-24	13	13
3	8.75	03-JUL-24	3	3

More than 10 rows available. Increase rows selector to view more rows.

10 rows returned in 0.00 seconds [CSV Export](#)

MOVIE TABLE:

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)
VALUES (1, 'Inception', 'Sci-Fi', 2010, 4.50);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)
```

```
VALUES (2, 'The Shawshank Redemption', 'Drama', 1994, 3.75);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)  
VALUES (3, 'The Godfather', 'Crime', 1972, 4.00);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)  
VALUES (4, 'The Dark Knight', 'Action', 2008, 4.75);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)  
VALUES (5, 'Pulp Fiction', 'Crime', 1994, 3.80);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)  
VALUES (6, 'Forrest Gump', 'Drama', 1994, 3.60);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)  
VALUES (7, 'The Matrix', 'Sci-Fi', 1999, 4.20);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)  
VALUES (8, 'Fight Club', 'Drama', 1999, 3.90);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)  
VALUES (9, 'Gladiator', 'Action', 2000, 4.10);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)  
VALUES (10, 'The Silence of the Lambs', 'Thriller', 1991, 3.85);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)  
VALUES (11, 'Schindler's List', 'Biography', 1993, 4.50);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)
VALUES (12, 'Avengers: Endgame', 'Action', 2019, 5.00);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)
VALUES (13, 'Interstellar', 'Sci-Fi', 2014, 4.70);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)
VALUES (14, 'The Green Mile', 'Drama', 1999, 3.75);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)
VALUES (15, 'Titanic', 'Romance', 1997, 4.00);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)
VALUES (16, 'Saving Private Ryan', 'War', 1998, 4.60);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)
VALUES (17, 'Braveheart', 'History', 1995, 4.30);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)
VALUES (18, 'Jurassic Park', 'Adventure', 1993, 3.80);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)
VALUES (19, 'The Lion King', 'Animation', 1994, 3.50);
```

```
INSERT INTO MOVIE (movie_id, title, genre, release_year, rental_rate)
VALUES (20, 'The Departed', 'Crime', 2006, 4.40);
```

User: HAJRA

Home > SQL > SQL Commands

☒ Autocommit Display 10 [Save](#) [Run](#)

```
SELECT * FROM MOVIE
```

Results Explain Describe Saved SQL History

MOVIE_ID	TITLE	GENRE	RELEASE_YEAR	RENTAL_RATE
1	Inception	Sci-Fi	2010	4.5
2	The Shawshank Redemption	Drama	1994	3.75
3	The Godfather	Crime	1972	4
4	The Dark Knight	Action	2008	4.75
5	Pulp Fiction	Crime	1994	3.8
6	Forrest Gump	Drama	1994	3.6
7	The Matrix	Sci-Fi	1999	4.2
8	Fight Club	Drama	1999	3.9
9	Gladiator	Action	2000	4.1
10	The Silence of the Lambs	Thriller	1991	3.85

10 rows returned in 0.00 seconds [CSV Export](#)

STAFF TABLE:

INSERT INTO STAFF (staff_id, name, contact, role) VALUES (1, 'Ali Khan', '03001234567', 'Manager');

INSERT INTO STAFF (staff_id, name, contact, role) VALUES (2, 'Sara Ahmed', '03111234567', 'Assistant Manager');

INSERT INTO STAFF (staff_id, name, contact, role) VALUES (3, 'Zain Malik', '03211234567', 'Cashier');

```
INSERT INTO STAFF (staff_id, name, contact, role) VALUES (4, 'Ayesha Noor',  
'03311234567', 'Clerk');
```

```
INSERT INTO STAFF (staff_id, name, contact, role) VALUES (5, 'Hamza Iqbal',  
'03451234567', 'Manager');
```

```
INSERT INTO STAFF (staff_id, name, contact, role) VALUES (6, 'Bilal Ali', '03011231234',  
'Cashier');
```

```
INSERT INTO STAFF (staff_id, name, contact, role) VALUES (7, 'Hina Riaz', '03111231234',  
'Assistant Clerk');
```

```
INSERT INTO STAFF (staff_id, name, contact, role) VALUES (8, 'Noman Sheikh',  
'03211231234', 'Manager');
```

```
INSERT INTO STAFF (staff_id, name, contact, role) VALUES (9, 'Mariam Javed',  
'03311231234', 'Assistant Manager');
```

```
INSERT INTO STAFF (staff_id, name, contact, role) VALUES (10, 'Owais Khan',  
'03451231234', 'Clerk');
```

```
INSERT INTO STAFF (staff_id, name, contact, role) VALUES (11, 'Farah Rizwan',  
'03021234567', 'Manager');
```

```
INSERT INTO STAFF (staff_id, name, contact, role) VALUES (12, 'Yasir Qureshi',  
'03121234567', 'Cashier');
```

```
INSERT INTO STAFF (staff_id, name, contact, role) VALUES (13, 'Rabia Aslam',  
'03221234567', 'Assistant Clerk');
```

```
INSERT INTO STAFF (staff_id, name, contact, role) VALUES (14, 'Shahid Raza',  
'03321234567', 'Clerk');
```

```
INSERT INTO STAFF (staff_id, name, contact, role) VALUES (15, 'Zara Baig', '03461234567',  
'Assistant Manager');
```

```
INSERT INTO STAFF (staff_id, name, contact, role) VALUES (16, 'Adnan Farooq',  
'03031234567', 'Manager');
```

```
INSERT INTO STAFF (staff_id, name, contact, role) VALUES (17, 'Sania Tariq', '03131234567',  
'Assistant Clerk');
```

```
INSERT INTO STAFF (staff_id, name, contact, role) VALUES (18, 'Waqas Khan',  
'03231234567', 'Cashier');
```

INSERT INTO STAFF (staff_id, name, contact, role) VALUES (19, 'Iqra Liaqat', '03331234567', 'Assistant Manager');

INSERT INTO STAFF (staff_id, name, contact, role) VALUES (20, 'Tariq Saeed', '03471234567', 'Clerk');

☒ Autocommit Display 10 Save Run

SELECT * FROM STAFF

Results Explain Describe Saved SQL History

STAFF_ID	NAME	CONTACT	ROLE
1	Ali Khan	03001234567	Manager
2	Sara Ahmed	03111234567	Assistant Manager
3	Zain Malik	03211234567	Cashier
4	Ayesha Noor	03311234567	Clerk
5	Hamza Iqbal	03451234567	Manager
6	Bilal Ali	03011231234	Cashier
7	Hina Riaz	03111231234	Assistant Clerk
8	Noman Sheikh	03211231234	Manager
9	Mariam Javed	03311231234	Assistant Manager
10	Owais Khan	03451231234	Clerk

More than 10 rows available. Increase rows selector to view more rows.

10 rows returned in 0.02 seconds [CSV Export](#)

Application Express 2.1.0.00.39

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Internet Application Development

Movie Rental System

Movie Rental System Dashboards:

Default2.aspx:

```
<%@ Page Language="VB" AutoEventWireup="false" CodeFile="Default2.aspx.vb"
Inherits="_Default" %>
```

```
<!DOCTYPE html>
```

```
<html xmlns="http://www.w3.org/1999/xhtml">
```

```
<head runat="server">
```

```
<title>Movie Rental System</title>
```

```
<style>
```

```
body {
```

```
font-family: Arial, sans-serif;
```

```
background: linear-gradient(to right, #232526, #414345);
```

```
color: white;
```

```
text-align: center;
```

```
padding: 50px;
```

```
}
```

```
.container {
```

```
margin: auto;
```

```
max-width: 800px;
```

```
background-color: rgba(0,0,0,0.7);
```

```
padding: 30px;
```

```
border-radius: 10px;
```

```
}
```

```
h2 {  
  font-size: 36px;  
  margin-bottom: 20px;  
}
```

```
.btn {  
  padding: 12px 30px;  
  font-size: 18px;  
  background-color: #ff5722;  
  color: white;  
  border: none;  
  border-radius: 5px;  
  cursor: pointer;  
  margin: 10px;  
}
```

```
.btn:hover {  
  background-color: #e64a19;  
}
```

```
.form-group {  
  margin: 10px 0;  
}
```

```
</style>
```

```
</head>
```

```
<body>
```

```
<form id="form1" runat="server">

    <div class="container">

        <h2>Movie Rental System</h2>

        <!-- Role Selection -->

        <asp:Panel ID="pnlRoleSelection" runat="server" Visible="True">

            <asp:Button ID="btnCustomerLoginView" runat="server" Text="Customer Login"
            CssClass="btn" OnClick="btnCustomerLoginView_Click" />

            <asp:Button ID="btnStaffLoginView" runat="server" Text="Staff Login"
            CssClass="btn" OnClick="btnStaffLoginView_Click" />

        </asp:Panel>

        <!-- Customer Login or Register Choice -->

        <asp:Panel ID="pnlCustomerChoice" runat="server" Visible="False">

            <asp:Button ID="btnCustomerLoginForm" runat="server" Text="Login"
            CssClass="btn" OnClick="btnCustomerLoginForm_Click" />

            <asp:Button ID="btnCustomerRegisterForm" runat="server" Text="Register"
            CssClass="btn" OnClick="btnCustomerRegisterForm_Click" />

        </asp:Panel>

        <!-- Customer Login -->

        <asp:Panel ID="pnlCustomerLogin" runat="server" Visible="False">

            <h3>Customer Login</h3>

            <div class="form-group">Customer ID: <asp:TextBox ID="txtCustomerId"
            runat="server" /></div>

            <div class="form-group">Name: <asp:TextBox ID="txtCustomerName"
            runat="server" /></div>

            <asp:Button ID="btnCustomerLogin" runat="server" Text="Login" CssClass="btn"
            OnClick="btnCustomerLogin_Click" />

            <br />

            <asp:Label ID="lblCustomerStatus" runat="server" ForeColor="Red" />

        </asp:Panel>

    </div>

</form>
```

</asp:Panel>

<!-- Customer Registration -->

<asp:Panel ID="pnlCustomerRegister" runat="server" Visible="False">

<h3>Register New Customer</h3>

<div class="form-group">Name: <asp:TextBox ID="txtNewCustomerName" runat="server" /></div>

<div class="form-group">Contact: <asp:TextBox ID="txtNewCustomerContact" runat="server" /></div>

<div class="form-group">Address: <asp:TextBox ID="txtNewCustomerAddress" runat="server" /></div>

<asp:Button ID="btnRegisterCustomer" runat="server" Text="Register" CssClass="btn" OnClick="btnRegisterCustomer_Click" />

<asp:Label ID="lblRegisterStatus" runat="server" ForeColor="Green" />

</asp:Panel>

<!-- Staff Login -->

<asp:Panel ID="pnlStaffLogin" runat="server" Visible="False">

<h3>Staff Login</h3>

<div class="form-group">Staff ID: <asp:TextBox ID="txtStaffId" runat="server" /></div>

<div class="form-group">Name: <asp:TextBox ID="txtStaffName" runat="server" /></div>

<asp:Button ID="btnStaffLogin" runat="server" Text="Login" CssClass="btn" OnClick="btnStaffLogin_Click" />

<asp:Label ID="lblStaffStatus" runat="server" ForeColor="Red" />

```
</asp:Panel>
```

```
<!-- Customer Dashboard -->
```

```
<asp:Panel ID="pnlCustomerDashboard" runat="server" Visible="False">
```

```
    <h3>Welcome, Customer!</h3>
```

```
    <asp:Button ID="btnViewMovies" runat="server" Text="View Available Movies"
OnClick="btnViewMovies_Click" /><br /><br />
```

```
    <asp:Panel ID="pnlMovies" runat="server" Visible="False">
```

```
        <h3>Available Movies:</h3>
```

```
        <asp:GridView ID="gvMovies" runat="server" AutoGenerateColumns="True" />
```

```
    <br />
```

```
</asp:Panel>
```

```
    <asp:Button ID="btnGoToRentals" runat="server" Text="Rental History"
CssClass="btn" PostBackUrl="~/ViewRentals.aspx" />
```

```
    <asp:Button ID="btnGoToRent" runat="server" Text="Rent a Movie" CssClass="btn"
PostBackUrl="~/RentMovies.aspx" />
```

```
    <asp:Button ID="btnGoToPayments" runat="server" Text="Make a Payment"
CssClass="btn" PostBackUrl="~/MakePayments.aspx" />
```

```
    <br /><br />
```

```
    <asp:Button ID="btnCustomerLogout" runat="server" Text="Logout" CssClass="btn"
OnClick="btnLogout_Click" />
```

```
</asp:Panel>
```

```
<!-- Admin Dashboard -->
```

```
<asp:Panel ID="pnlStaffDashboard" runat="server" Visible="False">
```

```
    <h3>Admin Dashboard</h3>
```

```
    <asp:Button ID="btnGoToManageMovies" runat="server" Text="Manage Movies"
CssClass="btn" PostBackUrl="~/ManageMovies.aspx" />
```

```
    <asp:Button ID="btnGoToManagePayments" runat="server" Text="Manage Rentals"
CssClass="btn" PostBackUrl="~/Default.aspx" />
```

```
    <br /><br />
```

```
        <asp:Button ID="btnStaffLogout" runat="server" Text="Logout" CssClass="btn"
OnClick="btnLogout_Click" />

    </asp:Panel>

</div>

</form>

</body>

</html>
```

Default2.aspx.vb:

```
Imports System.Data.SqlClient
```

```
Imports System.Data
```

```
Partial Class _Default
```

```
    Inherits System.Web.UI.Page
```

```
    Dim conStr As String = "workstation id=movierental.mssql.somee.com;packet size=4096;user
id=hajra_SQLLogin_3;pwd=7jt2lvnzho;data source=movierental.mssql.somee.com;persist
security info=False;initial catalog=movierental;TrustServerCertificate=True"
```

```
Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load
```

```
    If Not IsPostBack Then
```

```
        pnlRoleSelection.Visible = True
```

```
    End If
```

```
End Sub
```

```
Protected Sub btnCustomerLoginView_Click(sender As Object, e As EventArgs)
```

```
    pnlRoleSelection.Visible = False
```

```
    pnlCustomerChoice.Visible = True
```

```
End Sub
```

```
Protected Sub btnCustomerLoginForm_Click(sender As Object, e As EventArgs)
```

```
    pnlCustomerChoice.Visible = False
```

```
    pnlCustomerLogin.Visible = True
```

```
End Sub
```

```
Protected Sub btnCustomerRegisterForm_Click(sender As Object, e As EventArgs)
```

```
    pnlCustomerChoice.Visible = False
```

```
    pnlCustomerRegister.Visible = True
```

```
End Sub
```

```
Protected Sub btnRegisterCustomer_Click(sender As Object, e As EventArgs)
```

```
    Dim name As String = txtNewCustomerName.Text.Trim()
```

```
    Dim contact As String = txtNewCustomerContact.Text.Trim()
```

```
    Dim address As String = txtNewCustomerAddress.Text.Trim()
```

```
    ' Check if all fields are filled
```

```
    If String.IsNullOrEmpty(name) Or String.IsNullOrEmpty(contact) Or  
String.IsNullOrEmpty(address) Then
```

```
        lblRegisterStatus.Text = "All fields are required."
```

```
        lblRegisterStatus.ForeColor = Drawing.Color.Red
```

```
        Return
```

```
    End If
```

```
    ' Fetch the next available customer_id
```

```
    Dim newCustomerId As Integer
```

```
    Using con As New SqlConnection(conStr)
```

```
Dim cmd As New SqlCommand("SELECT ISNULL(MAX(customer_id), 0) + 1 FROM  
CUSTOMER", con)
```

```
con.Open()
```

```
newCustomerId = Convert.ToInt32(cmd.ExecuteScalar())
```

```
End Using
```

```
' Insert the new customer into the database with the next customer_id
```

```
Using con As New SqlConnection(conStr)
```

```
Dim cmd As New SqlCommand("INSERT INTO CUSTOMER (customer_id, name,  
contact, address) VALUES (@customer_id, @name, @contact, @address)", con)
```

```
cmd.Parameters.AddWithValue("@customer_id", newCustomerId)
```

```
cmd.Parameters.AddWithValue("@name", name)
```

```
cmd.Parameters.AddWithValue("@contact", contact)
```

```
cmd.Parameters.AddWithValue("@address", address)
```

```
con.Open()
```

```
cmd.ExecuteNonQuery()
```

```
' Display success message with the newly generated customer ID
```

```
lblRegisterStatus.Text = "Registered successfully! Your Customer ID is: " &  
newCustomerId
```

```
lblRegisterStatus.ForeColor = Drawing.Color.Green
```

```
End Using
```

```
End Sub
```

```
Protected Sub btnStaffLoginView_Click(sender As Object, e As EventArgs)
```

```
pnlRoleSelection.Visible = False
```

```
pnlStaffLogin.Visible = True
```

```
End Sub
```

```
Protected Sub btnCustomerLogin_Click(sender As Object, e As EventArgs)
```

```
    Dim customerId As Integer
```

```
    If Not Integer.TryParse(txtCustomerId.Text, customerId) Then
```

```
        lblCustomerStatus.Text = "Invalid Customer ID."
```

```
        Return
```

```
    End If
```

```
    Dim name As String = txtCustomerName.Text.Trim()
```

```
    Using con As New SqlConnection(conStr)
```

```
        Dim cmd As New SqlCommand("SELECT COUNT(*) FROM CUSTOMER WHERE  
customer_id = @id AND name = @name", con)
```

```
        cmd.Parameters.AddWithValue("@id", customerId)
```

```
        cmd.Parameters.AddWithValue("@name", name)
```

```
        con.Open()
```

```
        Dim count As Integer = Convert.ToInt32(cmd.ExecuteScalar())
```

```
        If count = 1 Then
```

```
            Session("CustomerID") = customerId
```

```
            pnlCustomerLogin.Visible = False
```

```
            pnlCustomerDashboard.Visible = True
```

```
        Else
```

```
            lblCustomerStatus.Text = "Invalid Customer ID or Name."
```

```
        End If
```

```
    End Using
```

```
End Sub
```

```
Protected Sub btnViewMovies_Click(sender As Object, e As EventArgs)
```

```

        pnlMovies.Visible = True

        LoadMovies()

    End Sub

Private Sub LoadMovies()

    Using con As New SqlConnection(conStr)

        Dim cmd As New SqlCommand("SELECT movie_id, title, genre, release_year,
rental_rate FROM MOVIE", con)

        Dim da As New SqlDataAdapter(cmd)

        Dim dt As New DataTable()

        da.Fill(dt)

        gvMovies.DataSource = dt

        gvMovies.DataBind()

    End Using

End Sub

Protected Sub btnStaffLogin_Click(sender As Object, e As EventArgs)

    Dim staffId As Integer

    If Not Integer.TryParse(txtStaffId.Text, staffId) Then

        lblStaffStatus.Text = "Invalid Staff ID."

        Return

    End If

    Dim name As String = txtStaffName.Text.Trim()

    Using con As New SqlConnection(conStr)

        Dim cmd As New SqlCommand("SELECT COUNT(*) FROM STAFF WHERE staff_id
= @id AND name = @name", con)

        cmd.Parameters.AddWithValue("@id", staffId)

        cmd.Parameters.AddWithValue("@name", name)

```

```
con.Open()

Dim count As Integer = Convert.ToInt32(cmd.ExecuteScalar())

If count = 1 Then
    Session("StaffID") = staffId
    pnlStaffLogin.Visible = False
    pnlStaffDashboard.Visible = True
Else
    lblStaffStatus.Text = "Invalid Staff ID or Name."
End If

End Using

End Sub
```

```
Protected Sub btnLogout_Click(sender As Object, e As EventArgs)

    Session.Clear()

    pnlCustomerDashboard.Visible = False
    pnlStaffDashboard.Visible = False
    pnlCustomerLogin.Visible = False
    pnlStaffLogin.Visible = False
    pnlCustomerChoice.Visible = False
    pnlCustomerRegister.Visible = False
    pnlRoleSelection.Visible = True

End Sub

End Class
```

Output:

Movie Rental System

Customer Login

Staff Login

Movie Rental System

Register New Customer

Name:

Contact:

Address:

Register

Movie Rental System

Register New Customer

Name:

Contact:

Address:

Register

Registered successfully! Your Customer ID is: 1005

Movie Rental System

Welcome, Customer!

[View Available Movies](#)

[Rental History](#)

[Rent a Movie](#)

[Make a Payment](#)

[Logout](#)

[View Available Movies](#)

Available Movies:

movie_id	title	genre	release_year	rental_rate
1	Inception	Sci-Fi	2010	4.50
2	The Shawshank Redemption	Drama	1994	3.75
3	The Godfather	Crime	1972	4.00
4	The Dark Knight	Action	2008	4.75
5	Pulp Fiction	Crime	1994	3.80
6	Forrest Gump	Drama	1994	3.60
7	The Matrix	Sci-Fi	1999	4.20
8	Fight Club	Drama	1999	3.90
9	Gladiator	Action	2000	4.10
10	The Silence of the Lambs	Thriller	1991	3.85
11	Schindler's List	Biography	1993	4.50
12	Avengers: Endgame	Action	2019	5.00
13	Interstellar	Sci-Fi	2014	4.70
14	The Green Mile	Drama	1999	3.75
15	Titanic	Romance	1997	4.00
16	Saving Private Ryan	War	1998	4.60
17	Braveheart	History	1995	4.30
18	Jurassic Park	Adventure	1993	3.80
19	The Lion King	Animation	1994	3.50
20	The Departed	Crime	2006	4.40

Movie Rental System

Admin Dashboard

Manage Movies

Manage Rentals

Logout

Customer Dashboard:

RentMovies.aspx:

```
<%@ Page Language="VB" AutoEventWireup="false" CodeFile="RentMovies.aspx.vb"
Inherits="RentMovies" %>
```

```
<!DOCTYPE html>
```

```
<html>
```

```
<head runat="server">
```

```
<title>Rent a Movie</title>
```

```
</head>
```

```
<body>
```

```
<form id="form1" runat="server">
```

```
<div>
```

```
<h2>Rent a Movie</h2>
```

```
<asp:Label ID="lblSelect" runat="server" Text="Select a Movie:"></asp:Label><br />
```

```
<asp:DropDownList ID="ddlMovies" runat="server"></asp:DropDownList><br /><br />
```

```
<asp:Button ID="btnRent" runat="server" Text="Rent Movie" OnClick="btnRent_Click"
/><br /><br />
<asp:Label ID="lblStatus" runat="server" ForeColor="Green" />
</div>
</form>
</body>
</html>
```

RentMovies.aspx.vb:

Imports System.Data

Imports System.Data.SqlClient

Partial Class RentMovies

Inherits System.Web.UI.Page

Dim conStr As String = "workstation id=movierental.mssql.somee.com;packet size=4096;user
id=hajra_SQLLogin_3;pwd=7jt2lvnzho;data source=movierental.mssql.somee.com;persist
security info=False;initial catalog=movierental;TrustServerCertificate=True"

Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load

If Not IsPostBack Then

LoadMovies()

End If

End Sub

Private Sub LoadMovies()

```
Using con As New SqlConnection(conStr)
```

```
Dim cmd As New SqlCommand("SELECT movie_id, title FROM MOVIE", con)
```

```
Dim da As New SqlDataAdapter(cmd)
```

```
Dim dt As New DataTable()
```

```
da.Fill(dt)
```

```
ddlMovies.DataSource = dt
```

```
ddlMovies.DataTextField = "title"
```

```
ddlMovies.DataValueField = "movie_id"
```

```
ddlMovies.DataBind()
```

```
End Using
```

```
End Sub
```

```
Protected Sub btnRent_Click(sender As Object, e As EventArgs)
```

```
Try
```

```
Dim customerId As Integer = CInt(Session("CustomerID"))
```

```
Dim movieId As Integer = CInt(ddlMovies.SelectedValue)
```

```
Dim rentalDate As DateTime = DateTime.Now
```

```
Dim returnDate As DateTime = rentalDate.AddDays(3) ' Default 3-day rental
```

```
Dim staffId As Integer = 1 ' Default staff ID
```

```
' Generate new rental_id manually
```

```
Dim rentalId As Integer = GetNextRentalId()
```

```
Using con As New SqlConnection(conStr)
```

```
Dim query As String = "INSERT INTO RENTAL (rental_id, rental_date, return_date,  
customer_id, staff_id) " &
```

```
                "VALUES (@rental_id, @rental_date, @return_date, @customer_id,  
@staff_id);"
```

```

Using cmd As New SqlCommand(query, con)

    cmd.Parameters.AddWithValue("@rental_id", rentalId)
    cmd.Parameters.AddWithValue("@rental_date", rentalDate)
    cmd.Parameters.AddWithValue("@return_date", returnDate)
    cmd.Parameters.AddWithValue("@customer_id", customerId)
    cmd.Parameters.AddWithValue("@staff_id", staffId)

    con.Open()
    cmd.ExecuteNonQuery()

End Using
End Using

lblStatus.Text = "Movie rented successfully!"

Catch ex As Exception
    lblStatus.Text = "Error: " & ex.Message
End Try
End Sub

Private Function GetNextRentalId() As Integer
    Dim nextId As Integer = 1

    Using con As New SqlConnection(conStr)

        Dim cmd As New SqlCommand("SELECT ISNULL(MAX(rental_id), 0) + 1 FROM
RENTAL", con)

        con.Open()

        nextId = Convert.ToInt32(cmd.ExecuteScalar())

    End Using

    Return nextId
End Function
End Class

```

Output:

Rent a Movie

Select a Movie:

Inception ▼

Rent Movie

ViewRentals.aspx:

```
<%@ Page Language="VB" AutoEventWireup="false" CodeFile="ViewRentals.aspx.vb"
Inherits="ViewRentals" %>
```

```
<!DOCTYPE html>
```

```
<html>
```

```
<head runat="server">
```

```
    <title>Rental History</title>
```

```
</head>
```

```
<body>
```

```
    <form id="form1" runat="server">
```

```
        <div>
```

```
            <h2>Your Rental History</h2>
```

```
            <asp:GridView ID="gvRentals" runat="server" AutoGenerateColumns="True" />
```

```
        </div>
```

```
    </form>
```

</body>

</html>

ViewRentals.aspx.vb:

Imports System.Data

Imports System.Data.SqlClient

Partial Class ViewRentals

Inherits System.Web.UI.Page

Dim conStr As String = "workstation id=movierental.mssql.somee.com;packet size=4096;user id=hajra_SQLLogin_3;pwd=7jt2lvnzho;data source=movierental.mssql.somee.com;persist security info=False;initial catalog=movierental;TrustServerCertificate=True"

Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load

If Not IsPostBack Then

If Session("CustomerID") Is Nothing Then

Response.Redirect("CustomerLogin.aspx")

End If

LoadRentals()

End If

End Sub

Private Sub LoadRentals()

Dim customerId As Integer = Convert.ToInt32(Session("CustomerID"))

Using con As New SqlConnection(conStr)

```

Dim cmd As New SqlCommand("SELECT rental_id, rental_date, return_date FROM
RENTAL WHERE customer_id = @customer_id", con)

cmd.Parameters.AddWithValue("@customer_id", customerId)

Dim da As New SqlDataAdapter(cmd)

Dim dt As New DataTable()

da.Fill(dt)

gvRentals.DataSource = dt

gvRentals.DataBind()

End Using

End Sub

End Class

```

Output:

Your Rental History

rental_id	rental_date	return_date
23	23/05/2025 12:00:00 am	26/05/2025 12:00:00 am
24	23/05/2025 12:00:00 am	26/05/2025 12:00:00 am
25	23/05/2025 12:00:00 am	26/05/2025 12:00:00 am

MakePayments.aspx:

```

<%@ Page Language="VB" AutoEventWireup="false" CodeFile="MakePayments.aspx.vb"
Inherits="MakePayments" %>

```

```

<!DOCTYPE html>

```

```

<html xmlns="http://www.w3.org/1999/xhtml">

```

```

<head runat="server">

```

```

    <title>Make a Payment</title>

```

```
</head>

<body>

    <form id="form1" runat="server">

        <div>

            <h2>Make a Payment</h2>

            <asp:Label ID="lblRentalID" runat="server" Text="Select Rental:"></asp:Label><br />
            <asp:DropDownList ID="ddlRentals" runat="server"></asp:DropDownList><br /><br />

            <asp:Label ID="lblAmount" runat="server" Text="Amount:"></asp:Label><br />
            <asp:TextBox ID="txtAmount" runat="server"></asp:TextBox><br /><br />

            <asp:Button ID="btnMakePayment" runat="server" Text="Make Payment"
OnClick="btnMakePayment_Click" /><br /><br />

            <asp:Label ID="lblMessage" runat="server" ForeColor="Green"></asp:Label>

        </div>

    </form>

</body>

</html>
```

MakePayments.aspx.vb:

Imports System.Data.SqlClient

Imports System.Data

Partial Class MakePayments

Inherits System.Web.UI.Page

```
Private connectionString As String = "workstation id=movierental.mssql.somee.com;packet
size=4096;user id=hajra_SQLLogin_3;pwd=7jt2lvnzho;data
source=movierental.mssql.somee.com;persist security info=False;initial
catalog=movierental;TrustServerCertificate=True"
```

Protected Sub Page_Load(ByVal sender As Object, ByVal e As System.EventArgs) Handles Me.Load

 If Not IsPostBack Then

 If Session("CustomerID") IsNot Nothing Then

 LoadRentals()

 Else

 Response.Redirect("CustomerLogin.aspx")

 End If

 End If

End Sub

Private Sub LoadRentals()

 Using con As New SqlConnection(connectionString)

 Dim query As String = "SELECT rental_id FROM RENTAL WHERE customer_id = @CustomerID"

 Dim cmd As New SqlCommand(query, con)

 cmd.Parameters.AddWithValue("@CustomerID", Session("CustomerID"))

 con.Open()

 Dim reader As SqlDataReader = cmd.ExecuteReader()

 ddlRentals.DataSource = reader

 ddlRentals.DataTextField = "rental_id"

 ddlRentals.DataValueField = "rental_id"

```

        ddlRentals.DataBind()

        con.Close()

    End Using

End Sub

Protected Sub btnMakePayment_Click(sender As Object, e As EventArgs)

    Dim rentalId As Integer = Convert.ToInt32(ddlRentals.SelectedValue)

    Dim amount As Decimal = Convert.ToDecimal(txtAmount.Text)

    Dim customerId As Integer = Convert.ToInt32(Session("CustomerID"))

    Using con As New SqlConnection(connectionString)

        Dim query As String = "INSERT INTO PAYMENT (amount, payment_date, rental_id,
customer_id) VALUES (@amount, @date, @rentalId, @customerId)"

        Dim cmd As New SqlCommand(query, con)

        cmd.Parameters.AddWithValue("@amount", amount)

        cmd.Parameters.AddWithValue("@date", DateTime.Now)

        cmd.Parameters.AddWithValue("@rentalId", rentalId)

        cmd.Parameters.AddWithValue("@customerId", customerId)

        con.Open()

        cmd.ExecuteNonQuery()

        con.Close()

        lblMessage.Text = "Payment recorded successfully!"

    End Using

End Sub

End Class

```

Output:

Make a Payment

Select Rental:

23 ▼

Amount:

345

Make Payment

Staff Dashboard:

ManageRentals.aspx:

```
<%@ Page Language="VB" AutoEventWireup="false" CodeFile="Default.aspx.vb"
Inherits="Default" %>
```

```
<!DOCTYPE html>
```

```
<html xmlns="http://www.w3.org/1999/xhtml">
```

```
<head runat="server">
```

```
<title>Manage Rentals</title>
```

```
<style>
```

```
body {
```

```
font-family: Arial;
```

```
background-color: #f2f2f2;
```

```
padding: 20px;
```

```
}
```

```
.container {  
    background-color: #fff;  
    border-radius: 8px;  
    padding: 30px;  
    max-width: 900px;  
    margin: auto;  
    box-shadow: 0px 0px 10px #aaa;  
}
```

```
h2 {  
    text-align: center;  
    color: #333;  
}
```

```
.form-group {  
    margin-bottom: 15px;  
}
```

```
label, input {  
    display: block;  
    width: 100%;  
}
```

```
input[type="text"], input[type="number"], input[type="date"] {  
    padding: 10px;  
    margin-top: 5px;  
}
```

```
.btn {  
    background-color: #4CAF50;  
    color: white;  
    padding: 12px 20px;  
    border: none;  
    margin-top: 10px;  
    cursor: pointer;  
}
```

```
.btn:hover {  
    background-color: #45a049;  
}
```

```
.gridview {  
    margin-top: 30px;  
}
```

```
</style>
```

```
</head>
```

```
<body>
```

```
<form id="form1" runat="server">
```

```
<div class="container">
```

```
<h2>Manage Rentals</h2>
```

```
<div class="form-group">
```

```
<label>Rental ID:</label>
```

```
<asp:TextBox ID="txtRentalId" runat="server"></asp:TextBox>
```

```
</div>
```

```
<div class="form-group">
    <label>Rental Date:</label>
    <asp:TextBox ID="txtRentalDate" runat="server" TextMode="Date"></asp:TextBox>
</div>
<div class="form-group">
    <label>Return Date:</label>
    <asp:TextBox ID="txtReturnDate" runat="server" TextMode="Date"></asp:TextBox>
</div>
<div class="form-group">
    <label>Customer ID:</label>
    <asp:TextBox ID="txtCustomerId" runat="server"></asp:TextBox>
</div>
<div class="form-group">
    <label>Staff ID:</label>
    <asp:TextBox ID="txtStaffId" runat="server"></asp:TextBox>
</div>

<asp:Button ID="btnAddRental" runat="server" Text="Add Rental" CssClass="btn"
OnClick="btnAddRental_Click" />
<asp:Label ID="lblMessage" runat="server" ForeColor="Green" />

<div class="gridview">
    <asp:GridView ID="gvRentals" runat="server" AutoGenerateColumns="True" />
</div>
</div>
</form>
</body>
</html>
```

ManageRentals.aspx.vb:

Imports System.Data

Imports System.Data.SqlClient

Partial Class [Default]

Inherits System.Web.UI.Page

Dim conStr As String = "workstation id=movierental.mssql.somee.com;packet size=4096;user id=hajra_SQLLogin_3;pwd=7jt2lvnzho;data source=movierental.mssql.somee.com;persist security info=False;initial catalog=movierental;TrustServerCertificate=True"

Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load

If Not IsPostBack Then

LoadRentals()

End If

End Sub

Private Sub LoadRentals()

Using con As New SqlConnection(conStr)

Dim cmd As New SqlCommand("SELECT * FROM RENTAL ORDER BY rental_date DESC", con)

Dim da As New SqlDataAdapter(cmd)

Dim dt As New DataTable()

da.Fill(dt)

gvRentals.DataSource = dt

gvRentals.DataBind()

End Using

End Sub

```
Protected Sub btnAddRental_Click(sender As Object, e As EventArgs)
```

```
    Dim rentalId As Integer
```

```
    Dim rentalDate, returnDate As Date
```

```
    Dim customerId, staffId As Integer
```

```
    If Not Integer.TryParse(txtRentalId.Text.Trim(), rentalId) Then
```

```
        lblMessage.Text = "Invalid rental ID."
```

```
        lblMessage.ForeColor = Drawing.Color.Red
```

```
        Return
```

```
    End If
```

```
    If Not Date.TryParse(txtRentalDate.Text.Trim(), rentalDate) Then
```

```
        lblMessage.Text = "Invalid rental date."
```

```
        lblMessage.ForeColor = Drawing.Color.Red
```

```
        Return
```

```
    End If
```

```
    If Not Date.TryParse(txtReturnDate.Text.Trim(), returnDate) Then
```

```
        lblMessage.Text = "Invalid return date."
```

```
        lblMessage.ForeColor = Drawing.Color.Red
```

```
        Return
```

```
    End If
```

```
    If Not Integer.TryParse(txtCustomerId.Text.Trim(), customerId) OrElse Not  
Integer.TryParse(txtStaffId.Text.Trim(), staffId) Then
```

```
        lblMessage.Text = "Invalid customer or staff ID."
```

```
        lblMessage.ForeColor = Drawing.Color.Red
```

```
        Return
```

```
    End If
```

Using con As New SqlConnection(conStr)

```
Dim cmd As New SqlCommand("INSERT INTO RENTAL (rental_id, rental_date,  
return_date, customer_id, staff_id) VALUES (@rental_id, @rental_date, @return_date,  
@customer_id, @staff_id)", con)
```

```
cmd.Parameters.AddWithValue("@rental_id", rentalId)
```

```
cmd.Parameters.AddWithValue("@rental_date", rentalDate)
```

```
cmd.Parameters.AddWithValue("@return_date", returnDate)
```

```
cmd.Parameters.AddWithValue("@customer_id", customerId)
```

```
cmd.Parameters.AddWithValue("@staff_id", staffId)
```

```
con.Open()
```

```
cmd.ExecuteNonQuery()
```

```
lblMessage.Text = "Rental record added successfully."
```

```
lblMessage.ForeColor = Drawing.Color.Green
```

End Using

LoadRentals()

' Clear form

```
txtRentalId.Text = ""
```

```
txtRentalDate.Text = ""
```

```
txtReturnDate.Text = ""
```

```
txtCustomerId.Text = ""
```

```
txtStaffId.Text = ""
```

End Sub

End Class

Output:

Manage Rentals

Rental ID:

Rental Date:

dd/mm/yyyy

Return Date:

dd/mm/yyyy

Customer ID:

Staff ID:

Add Rental

rental_id	rental_date	return_date	customer_id	staff_id
23	23/05/2025 12:00:00 am	26/05/2025 12:00:00 am	1004	1
24	23/05/2025 12:00:00 am	26/05/2025 12:00:00 am	1004	1
25	23/05/2025 12:00:00 am	26/05/2025 12:00:00 am	1004	1
22	07/05/2025 12:00:00 am	10/05/2025 12:00:00 am	10	1
21	03/05/2025 12:00:00 am	06/05/2025 12:00:00 am	10	1
20	20/07/2024 12:00:00 am	24/07/2024 12:00:00 am	20	20
19	19/07/2024 12:00:00 am	23/07/2024 12:00:00 am	19	19
18	18/07/2024 12:00:00 am	22/07/2024 12:00:00 am	18	18
17	17/07/2024 12:00:00 am	21/07/2024 12:00:00 am	17	17
16	16/07/2024 12:00:00 am	20/07/2024 12:00:00 am	16	16
15	15/07/2024 12:00:00 am	19/07/2024 12:00:00 am	15	15
14	14/07/2024 12:00:00 am	18/07/2024 12:00:00 am	14	14
13	13/07/2024 12:00:00 am	17/07/2024 12:00:00 am	13	13
12	12/07/2024 12:00:00 am	16/07/2024 12:00:00 am	12	12
11	11/07/2024 12:00:00 am	15/07/2024 12:00:00 am	11	11
10	10/07/2024 12:00:00 am	14/07/2024 12:00:00 am	10	10
9	09/07/2024 12:00:00 am	13/07/2024 12:00:00 am	9	9
8	08/07/2024 12:00:00 am	12/07/2024 12:00:00 am	8	8
7	07/07/2024 12:00:00 am	11/07/2024 12:00:00 am	7	7
6	06/07/2024 12:00:00 am	10/07/2024 12:00:00 am	6	6
5	05/07/2024 12:00:00 am	09/07/2024 12:00:00 am	5	5
4	04/07/2024 12:00:00 am	08/07/2024 12:00:00 am	4	4
3	03/07/2024 12:00:00 am	07/07/2024 12:00:00 am	3	3
2	02/07/2024 12:00:00 am	06/07/2024 12:00:00 am	2	2

ManageMovies.aspx:

```
<%@ Page Language="VB" AutoEventWireup="false" CodeFile="ManageMovies.aspx.vb"
Inherits="ManageMovies" %>
```

```
<!DOCTYPE html>
```

```
<html xmlns="http://www.w3.org/1999/xhtml">
```

```
<head runat="server">
```

```
<title>Manage Movies</title>
```

```
</head>

<body>

    <form id="form1" runat="server">

        <div>

            <h2>Manage Movies</h2>

            <asp:GridView ID="gvMovies" runat="server" AutoGenerateColumns="False"
DataKeyNames="movie_id" OnRowEditing="gvMovies_RowEditing"
OnRowUpdating="gvMovies_RowUpdating"
OnRowCancelingEdit="gvMovies_RowCancelingEdit"
OnRowDeleting="gvMovies_RowDeleting">

                <Columns>

                    <asp:BoundField DataField="movie_id" HeaderText="Movie ID" ReadOnly="True"
/>

                    <asp:BoundField DataField="title" HeaderText="Title" />

                    <asp:BoundField DataField="genre" HeaderText="Genre" />

                    <asp:BoundField DataField="release_year" HeaderText="Release Year" />

                    <asp:BoundField DataField="rental_rate" HeaderText="Rental Rate" />

                    <asp:CommandField ShowEditButton="True" ShowDeleteButton="True" />

                </Columns>

            </asp:GridView>

            <br />

            <h3>Add New Movie</h3>

            Title: <asp:TextBox ID="txtTitle" runat="server" /><br />

            Genre: <asp:TextBox ID="txtGenre" runat="server" /><br />

            Release Year: <asp:TextBox ID="txtReleaseYear" runat="server" /><br />

            Rental Rate: <asp:TextBox ID="txtRentalRate" runat="server" /><br />

            <asp:Button ID="btnAddMovie" runat="server" Text="Add Movie"
OnClick="btnAddMovie_Click" /><br />

            <asp:Label ID="lblMessage" runat="server" ForeColor="Green" />

        </div>

    </form>

</body>

</html>
```

```
</form>
</body>
</html>
```

ManageMovies.aspx.vb:

```
Imports System.Data
```

```
Imports System.Data.SqlClient
```

```
Partial Class ManageMovies
```

```
    Inherits System.Web.UI.Page
```

```
    Dim conStr As String = "workstation id=movierental.mssql.somee.com;packet size=4096;user
id=hajra_SQLLogin_3;pwd=7jt2lvnzho;data source=movierental.mssql.somee.com;persist
security info=False;initial catalog=movierental;TrustServerCertificate=True"
```

```
    Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load
```

```
        If Session("StaffID") Is Nothing Then
```

```
            Response.Redirect("StaffLogin.aspx")
```

```
        End If
```

```
        If Not IsPostBack Then
```

```
            LoadMovies()
```

```
        End If
```

```
    End Sub
```

```
    Private Sub LoadMovies()
```

```
        Using con As New SqlConnection(conStr)
```

```
            Dim cmd As New SqlCommand("SELECT * FROM MOVIE", con)
```

```
            Dim da As New SqlDataAdapter(cmd)
```

```
Dim dt As New DataTable()  
da.Fill(dt)  
gvMovies.DataSource = dt  
gvMovies.DataBind()  
End Using  
End Sub
```

```
Protected Sub btnAddMovie_Click(sender As Object, e As EventArgs)  
    Using con As New SqlConnection(conStr)  
        Dim cmd As New SqlCommand("INSERT INTO MOVIE (title, genre, release_year,  
rental_rate) VALUES (@title, @genre, @release_year, @rental_rate)", con)  
        cmd.Parameters.AddWithValue("@title", txtTitle.Text)  
        cmd.Parameters.AddWithValue("@genre", txtGenre.Text)  
        cmd.Parameters.AddWithValue("@release_year", Convert.ToInt32(txtReleaseYear.Text))  
        cmd.Parameters.AddWithValue("@rental_rate", Convert.ToDecimal(txtRentalRate.Text))  
        con.Open()  
        cmd.ExecuteNonQuery()  
        lblMessage.Text = "Movie added successfully!"  
        LoadMovies()  
    End Using  
End Sub
```

```
Protected Sub gvMovies_RowEditing(sender As Object, e As GridViewEditEventArgs)  
    gvMovies.EditIndex = e.NewEditIndex  
    LoadMovies()  
End Sub
```

```
Protected Sub gvMovies_RowUpdating(sender As Object, e As GridViewUpdateEventArgs)  
    Dim movieId As Integer = Convert.ToInt32(gvMovies.DataKeys(e.RowIndex).Value)
```

```

Dim row As GridViewRow = gvMovies.Rows(e.RowIndex)

Dim title As String = CType(row.Cells(1).Controls(0), TextBox).Text

Dim genre As String = CType(row.Cells(2).Controls(0), TextBox).Text

Dim releaseYear As Integer = Convert.ToInt32(CType(row.Cells(3).Controls(0),
TextBox).Text)

Dim rentalRate As Decimal = Convert.ToDecimal(CType(row.Cells(4).Controls(0),
TextBox).Text)

Using con As New SqlConnection(conStr)

    Dim cmd As New SqlCommand("UPDATE MOVIE SET title=@title, genre=@genre,
release_year=@release_year, rental_rate=@rental_rate WHERE movie_id=@movie_id", con)

    cmd.Parameters.AddWithValue("@title", title)

    cmd.Parameters.AddWithValue("@genre", genre)

    cmd.Parameters.AddWithValue("@release_year", releaseYear)

    cmd.Parameters.AddWithValue("@rental_rate", rentalRate)

    cmd.Parameters.AddWithValue("@movie_id", movieId)

    con.Open()

    cmd.ExecuteNonQuery()

    lblMessage.Text = "Movie updated successfully!"

    gvMovies.EditIndex = -1

    LoadMovies()

End Using

End Sub

Protected Sub gvMovies_RowCancelingEdit(sender As Object, e As
GridViewCancelEventArgs)

    gvMovies.EditIndex = -1

    LoadMovies()

End Sub

```

```
Protected Sub gvMovies_RowDeleting(sender As Object, e As GridViewDeleteEventArgs)
    Dim movieId As Integer = Convert.ToInt32(gvMovies.DataKeys(e.RowIndex).Value)
    Using con As New SqlConnection(conStr)
        Dim cmd As New SqlCommand("DELETE FROM MOVIE WHERE
movie_id=@movie_id", con)
        cmd.Parameters.AddWithValue("@movie_id", movieId)
        con.Open()
        cmd.ExecuteNonQuery()
        lblMessage.Text = "Movie deleted successfully!"
        LoadMovies()
    End Using
End Sub
End Class
```

Output:

Manage Movies

Movie ID	Title	Genre	Release Year	Rental Rate	
1	Inception	Sci-Fi	2010	4.50	Edit Delete
2	The Shawshank Redemption	Drama	1994	3.75	Edit Delete
3	The Godfather	Crime	1972	4.00	Edit Delete
4	The Dark Knight	Action	2008	4.75	Edit Delete
5	Pulp Fiction	Crime	1994	3.80	Edit Delete
6	Forrest Gump	Drama	1994	3.60	Edit Delete
7	The Matrix	Sci-Fi	1999	4.20	Edit Delete
8	Fight Club	Drama	1999	3.90	Edit Delete
9	Gladiator	Action	2000	4.10	Edit Delete
10	The Silence of the Lambs	Thriller	1991	3.85	Edit Delete
11	Schindler's List	Biography	1993	4.50	Edit Delete
12	Avengers: Endgame	Action	2019	5.00	Edit Delete
13	Interstellar	Sci-Fi	2014	4.70	Edit Delete
14	The Green Mile	Drama	1999	3.75	Edit Delete
15	Titanic	Romance	1997	4.00	Edit Delete
16	Saving Private Ryan	War	1998	4.60	Edit Delete
17	Braveheart	History	1995	4.30	Edit Delete
18	Jurassic Park	Adventure	1993	3.80	Edit Delete
19	The Lion King	Animation	1994	3.50	Edit Delete
20	The Departed	Crime	2006	4.40	Edit Delete

Movie ID	Title	Genre	Release Year	Rental Rate	
1	Inception	Sci-Fi	2010	4.50	Update Cancel
2	The Shawshank Redemotion	Drama	1994	3.75	Edit Delete

Add New Movie

Title:

Genre:

Release Year:

Rental Rate:
