

Pakistan Institute of Engineering and Applied Sciences



PROJECT REPORT
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MOVIE RENTAL SYSTEM

1.1.1 Database Systems Project Report

1.1.2 1. Introduction

The **Movie Rental System** is a database project aimed at automating and optimizing movie rental operations, including customer management, inventory tracking, payment handling, and rental processing. The system utilizes a relational database approach to ensure efficient data management, accuracy, and consistency. With entities such as **Customer**, **Movie**, **Rental**, **Payment**, and **Staff**, the system enables easy data retrieval, storage, and processing to streamline day-to-day rental store operations.

1.1.3 2. Entities Involved

The key entities in the **Movie Rental System** include:

1. **Customer**
 2. **Movie**
 3. **Rental**
 4. **Payment**
 5. **Staff**
-

1.1.4 3. Attributes

Each entity has the following attributes:

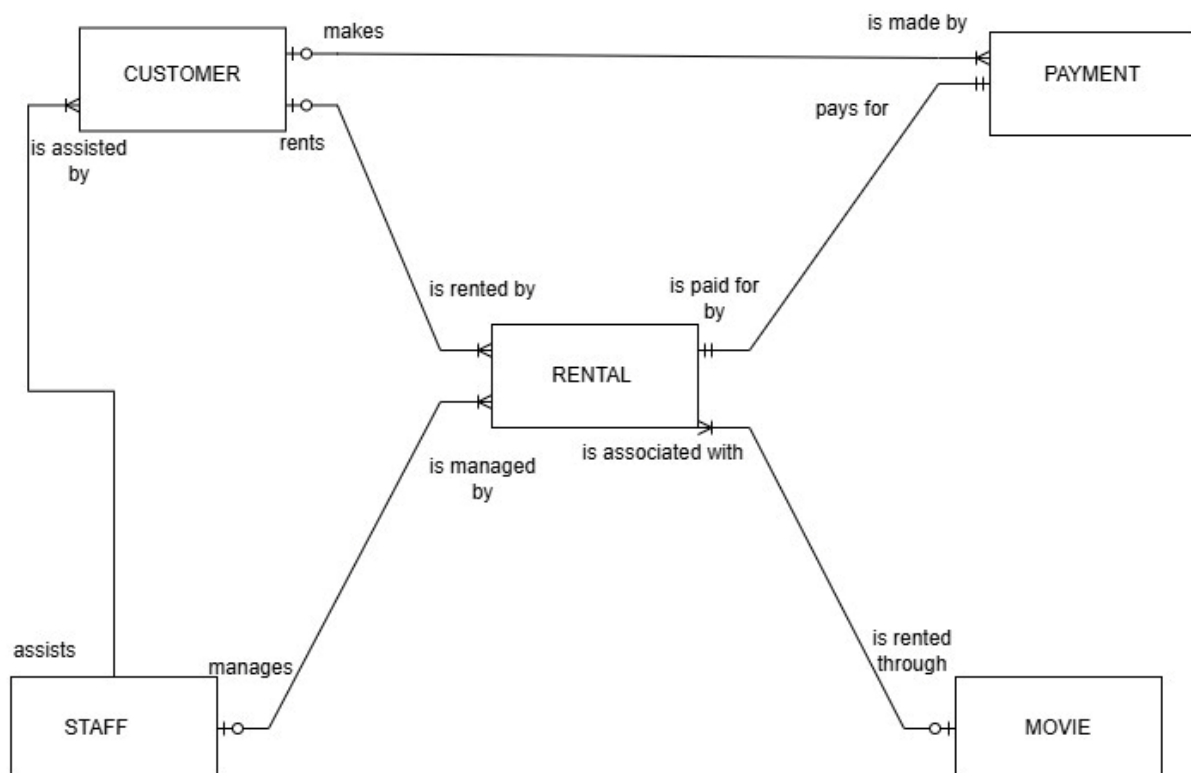
- **Customer:**
 - Customer_ID (Primary Key)
 - Name
 - Address
 - Phone_Number
 - Email
- **Movie:**
 - Movie_ID (Primary Key)
 - Title
 - Genre
 - Release_Date
 - Rental_Price
 - Availability_Status
- **Rental:**
 - Rental_ID (Primary Key)
 - Customer_ID (Foreign Key)
 - Movie_ID (Foreign Key)
 - Rental_Date

- Return_Date
- **Payment:**
 - Payment_ID (Primary Key)
 - Rental_ID (Foreign Key)
 - Payment_Date
 - Amount
 - Payment_Method
- **Staff:**
 - Staff_ID (Primary Key)
 - Name
 - Role
 - Contact_Number

1.1.5 4. Entity Relationship Diagram (ERD)

The ER Diagram visually represents the entities, their attributes, and relationships among them.

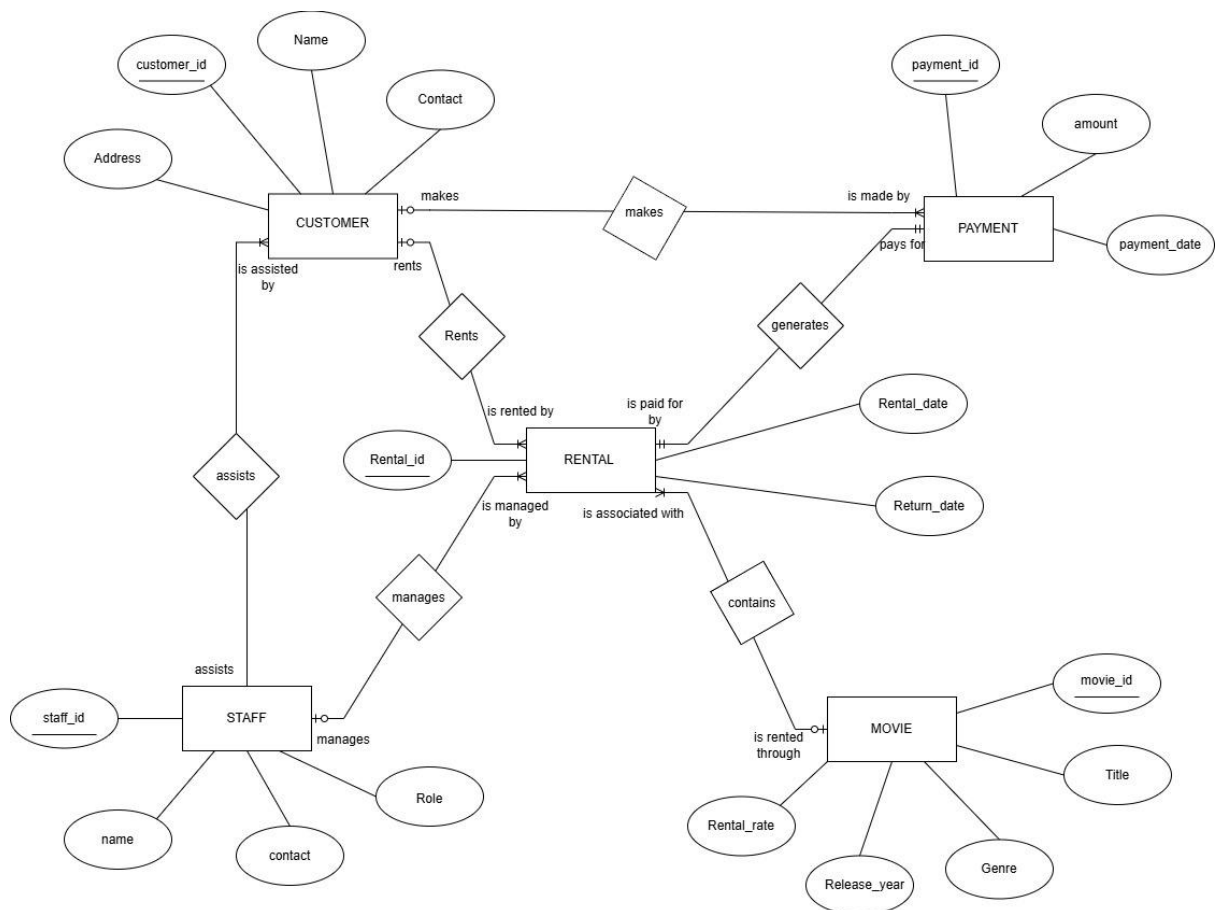
- **Customer** rents **Movies**.
- **Rental** associates a **Customer** and a **Movie**.
- **Payment** corresponds to a **Rental**.
- **Staff** manages the system operations.



1.1.6 5. Entity Relationship Model

The Entity Relationship Model includes entities, attributes, relationships, and cardinalities:

1. **Customer to Rental:** One-to-Many (A customer can rent multiple movies).
2. **Movie to Rental:** One-to-Many (A movie can be rented multiple times).
3. **Rental to Payment:** One-to-One (Each rental has one corresponding payment).
4. **Staff:** Independent entity managing operations.



1.1.7 6. Relational Model (Entity Tables)

The relational model involves converting entities into tables:

Customer_ID	Name	Address	Phone_Number	Email
-------------	------	---------	--------------	-------

<u>Movie_ID</u>	Title	Genre	Release_Date	Rental_Price	Availability_Status
-----------------	-------	-------	--------------	--------------	---------------------

<u>Rental_ID</u>	Customer_ID	Movie_ID	Rental_Date	Return_Date
------------------	-------------	----------	-------------	-------------

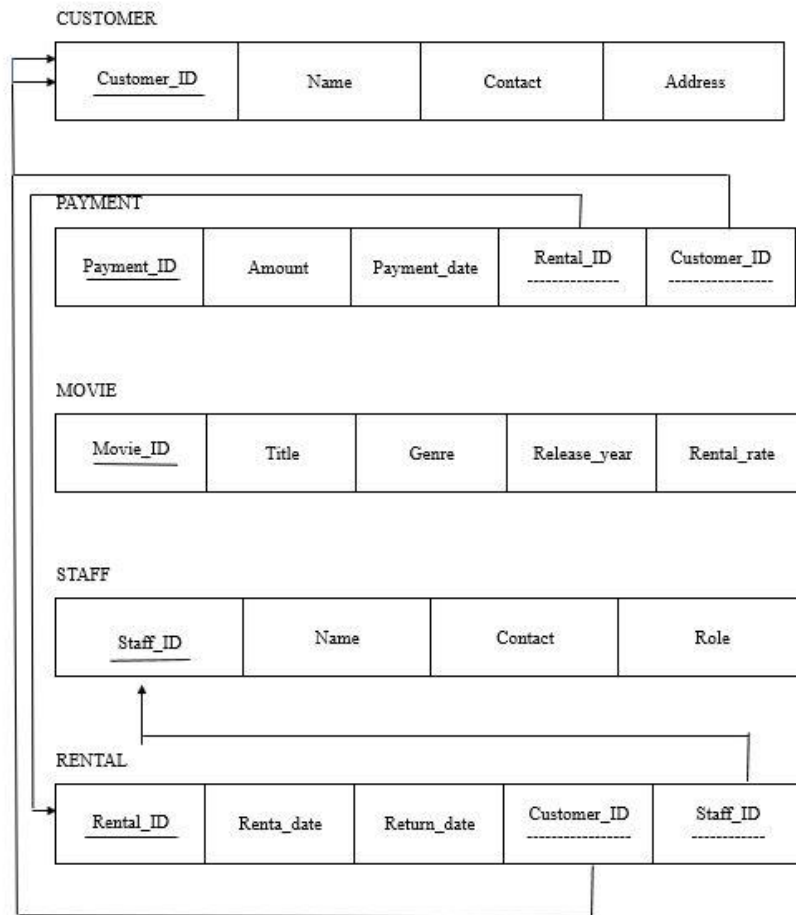
<u>Payment_ID</u>	Rental_ID	Payment_Date	Amount	Payment_Method
-------------------	-----------	--------------	--------	----------------

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

1.1.8 7. Complete Relational Model

The complete relational model includes relationships defined by **Primary Keys (PK)** and **Foreign Keys (FK)**:

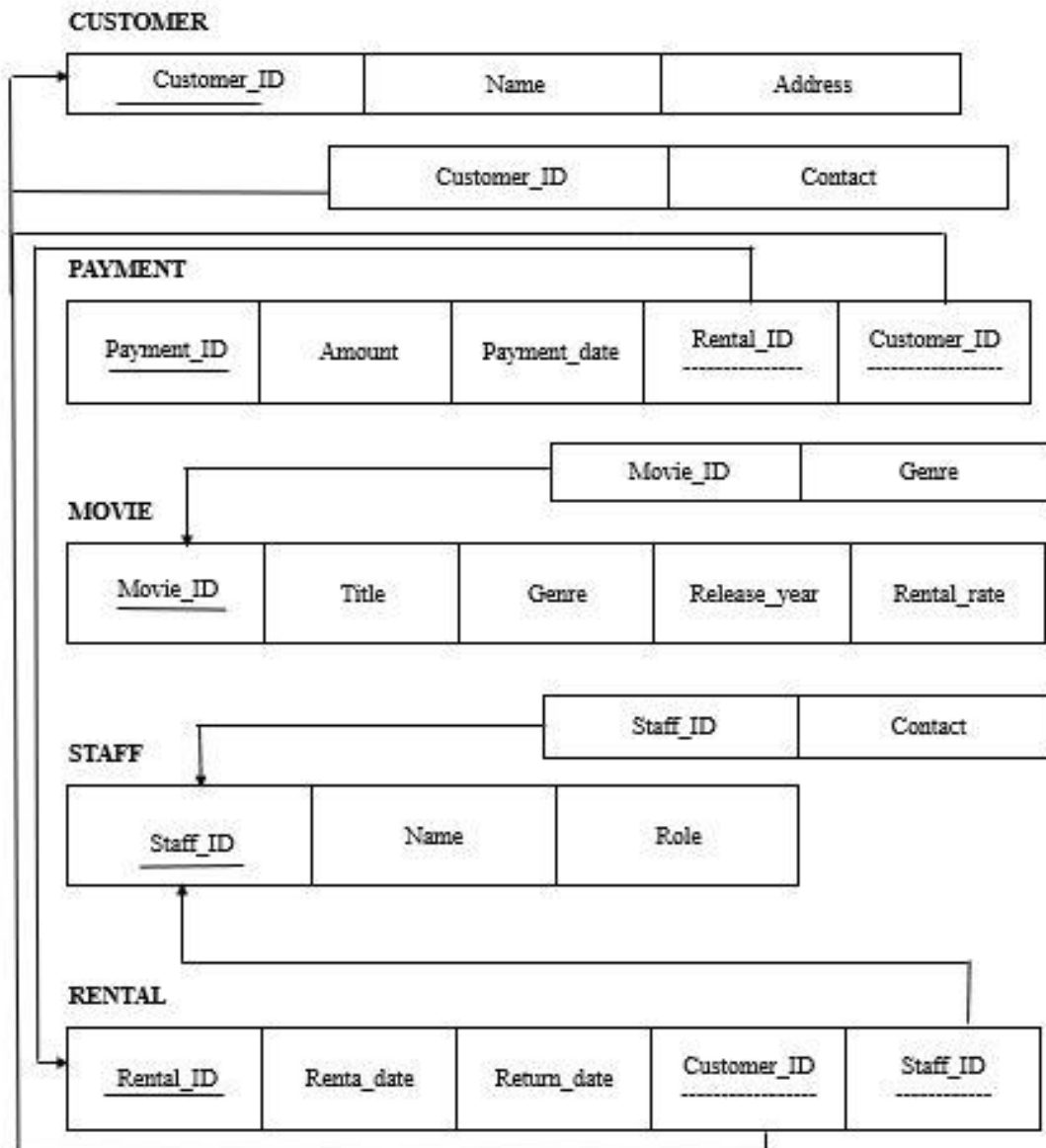
- **Customer**(Customer_ID, Name, Address, Phone_Number, Email)
- **Movie**(Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
- **Rental**(Rental_ID, Customer_ID (FK), Movie_ID (FK), Rental_Date, Return_Date)
- **Payment**(Payment_ID, Rental_ID (FK), Payment_Date, Amount, Payment_Method)
- **Staff**(Staff_ID, Name, Role, Contact_Number)



1.1.9 8. Normalized Schema

To eliminate redundancy and maintain data integrity, the schema is normalized to **3rd Normal Form (3NF)**:

- **1NF**: All data is atomic, and no repeating groups exist.
- **2NF**: Partial dependencies are removed by ensuring each non-key attribute is fully dependent on the primary key.
- **3NF**: Transitive dependencies are eliminated so that non-key attributes depend only on the primary key.



1.1.10 9. SQL QUERIES

CREATING TABLES

-- Create Customer Table

CREATE TABLE Customer (

Customer_ID INT PRIMARY KEY,

Name VARCHAR(100),

Address VARCHAR(255),

```
Phone_Number VARCHAR(15),  
  
Email VARCHAR(100)  
  
);
```

The screenshot shows a SQL command window with a title bar 'Home > SQL > SQL Commands'. The window has a toolbar with a checked 'Autocommit' checkbox, a 'Display' dropdown set to '10', and 'Save' and 'Run' buttons. The main text area contains the following SQL command:

```
CREATE TABLE Customer (  
    Customer_ID INT PRIMARY KEY,  
    Name VARCHAR(100),  
    Address VARCHAR(255),  
    Phone_Number VARCHAR(15),  
    Email VARCHAR(100)  
);
```

Below the command area is a tabbed interface with 'Results' selected. The results pane displays the message 'Table created.' and the execution time '0.11 seconds'.

```
CREATE TABLE Movie (  
  
    Movie_ID INT PRIMARY KEY,  
  
    Title VARCHAR(100),  
  
    Genre VARCHAR(50),  
  
    Release_Date DATE,  
  
    Rental_Price DECIMAL(10, 2),  
  
    Availability_Status CHAR(1)  
  
);
```


Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
CREATE TABLE Movie (  
    Movie_ID INT PRIMARY KEY,  
    Title VARCHAR(100),  
    Genre VARCHAR(50),  
    Release_Date DATE,  
    Rental_Price DECIMAL(10, 2),  
    Availability_Status CHAR(1)  
);
```

Results Explain Describe Saved SQL History

Table created.

0.01 seconds

```
CREATE TABLE Rental (  
    Rental_ID INT PRIMARY KEY,  
    Customer_ID INT,  
    Movie_ID INT,  
    Rental_Date DATE,  
    Return_Date DATE,  
    FOREIGN KEY (Customer_ID) REFERENCES Customer(Customer_ID),  
    FOREIGN KEY (Movie_ID) REFERENCES Movie(Movie_ID)  
);
```

☒ Autocommit Display 10 ▼

Save

Run

```
CREATE TABLE Rental (  
    Rental_ID INT PRIMARY KEY,  
    Customer_ID INT,  
    Movie_ID INT,  
    Rental_Date DATE,  
    Return_Date DATE,  
    FOREIGN KEY (Customer_ID) REFERENCES Customer(Customer_ID),  
    FOREIGN KEY (Movie_ID) REFERENCES Movie(Movie_ID)  
);
```

Results Explain Describe Saved SQL History

Table created.

0.03 seconds

```
CREATE TABLE Payment (  
    Payment_ID INT PRIMARY KEY,  
    Rental_ID INT,  
    Payment_Date DATE,  
    Amount DECIMAL(10, 2),  
    Payment_Method VARCHAR(50),  
    FOREIGN KEY (Rental_ID) REFERENCES Rental(Rental_ID)  
);
```

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
CREATE TABLE Payment (  
    Payment_ID INT PRIMARY KEY,  
    Rental_ID INT,  
    Payment_Date DATE,  
    Amount DECIMAL(10, 2),  
    Payment_Method VARCHAR(50),  
    FOREIGN KEY (Rental_ID) REFERENCES Rental(Rental_ID)  
);|
```

Results Explain Describe Saved SQL History

Table created.

0.01 seconds

```
CREATE TABLE Staff (  
    Staff_ID INT PRIMARY KEY,  
    Name VARCHAR(100),  
    Role VARCHAR(50),  
    Contact_Number VARCHAR(15)  
);
```

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
CREATE TABLE Staff (  
    Staff_ID INT PRIMARY KEY,  
    Name VARCHAR(100),  
    Role VARCHAR(50),  
    Contact_Number VARCHAR(15)  
);|
```

Results Explain Describe Saved SQL History

Table created.

0.02 seconds

❏ INSERTING SAMPLE DATA:

CUSTOMER TABLE

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (1, 'Alice Green', '123 Elm Street', '555-0101', 'alice.green@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (2, 'Bob Smith', '456 Oak Avenue', '555-0202', 'bob.smith@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (3, 'Charlie Johnson', '789 Pine Lane', '555-0303', 'charlie.johnson@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (4, 'Daisy Miller', '101 Maple Drive', '555-0404', 'daisy.miller@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (5, 'Ethan Taylor', '202 Birch Boulevard', '555-0505', 'ethan.taylor@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (6, 'Fiona Brown', '303 Cedar Street', '555-0606', 'fiona.brown@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (7, 'George Davis', '404 Pine Circle', '555-0707', 'george.davis@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (8, 'Hannah Wilson', '505 Oak Road', '555-0808', 'hannah.wilson@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (9, 'Isabella White', '606 Maple Court', '555-0909', 'isabella.white@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
```

```
VALUES (10, 'Jack Moore', '707 Birch Avenue', '555-1010', 'jack.moore@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)  
VALUES (11, 'Katie Anderson', '808 Pine Drive', '555-1111', 'katie.anderson@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)  
VALUES (12, 'Liam Garcia', '909 Cedar Lane', '555-1212', 'liam.garcia@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)  
VALUES (13, 'Megan Lopez', '1010 Oak Street', '555-1313', 'megan.lopez@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)  
VALUES (14, 'Noah Martinez', '1111 Pine Avenue', '555-1414', 'noah.martinez@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)  
VALUES (15, 'Olivia Wilson', '1212 Birch Boulevard', '555-1515', 'olivia.wilson@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)  
VALUES (16, 'Paul Thomas', '1313 Maple Drive', '555-1616', 'paul.thomas@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)  
VALUES (17, 'Quinn Davis', '1414 Cedar Street', '555-1717', 'quinn.davis@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)  
VALUES (18, 'Riley Moore', '1515 Oak Road', '555-1818', 'riley.moore@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)  
VALUES (19, 'Sophia Brown', '1616 Pine Circle', '555-1919', 'sophia.brown@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)  
VALUES (20, 'Tyler Garcia', '1717 Cedar Court', '555-2020', 'tyler.garcia@example.com');
```

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (1, 'Alice Green', '123 Elm Street', '555-0101', 'alice.green@example.com');
```

Results	Explain	Describe	Saved SQL	History
----------------	---------	----------	-----------	---------

1 row(s) inserted.

0.01 seconds

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (2, 'Bob Smith', '456 Oak Avenue', '555-0202', 'bob.smith@example.com');
```

Results	Explain	Describe	Saved SQL	History
----------------	---------	----------	-----------	---------

1 row(s) inserted.

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (3, 'Charlie Johnson', '789 Pine Lane', '555-0303', 'charlie.johnson@example.com');
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INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (4, 'Daisy Miller', '101 Maple Drive', '555-0404', 'daisy.miller@example.com');
```

Results	Explain	Describe	Saved SQL	History
----------------	---------	----------	-----------	---------

1 row(s) inserted.

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (5, 'Ethan Taylor', '202 Birch Boulevard', '555-0505', 'ethan.taylor@example.com');
```

Results Explain Describe Saved SQL History

1 row(s) inserted.

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (7, 'George Davis', '404 Pine Circle', '555-0707', 'george.davis@example.com');
```

Results Explain Describe Saved SQL History

1 row(s) inserted.

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (8, 'Hannah Wilson', '505 Oak Road', '555-0808', 'hannah.wilson@example.com');
```

Results Explain Describe Saved SQL History

```
INSERT INTO CUSTOMER (CUSTOMER_ID, NAME, ADDRESS, PHONE_NUMBER, EMAIL)
VALUES (10, 'Jack Moore', '707 Birch Avenue', '555-1010', 'jack.moore@example.com');
```

Results Explain Describe Saved SQL History

1 row(s) inserted.

Similarly did 20 entries

MOVIE TABLE

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (1, 'The Shawshank Redemption', 'Drama', TO_DATE('1994-09-23', 'YYYY-MM-DD'), 5.99, 'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (2, 'The Godfather', 'Crime, Drama', TO_DATE('1972-03-24', 'YYYY-MM-DD'), 4.99, 'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (3, 'The Dark Knight', 'Action, Crime, Drama', TO_DATE('2008-07-18', 'YYYY-MM-DD'), 3.99,
'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (4, 'Pulp Fiction', 'Crime, Drama', TO_DATE('1994-10-14', 'YYYY-MM-DD'), 5.99, 'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (5, 'Forrest Gump', 'Drama, Romance', TO_DATE('1994-07-06', 'YYYY-MM-DD'), 4.99, 'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (6, 'Inception', 'Action, Adventure, Sci-Fi', TO_DATE('2010-07-16', 'YYYY-MM-DD'), 3.99, 'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (7, 'Fight Club', 'Drama', TO_DATE('1999-10-15', 'YYYY-MM-DD'), 5.99, 'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (8, 'The Matrix', 'Action, Sci-Fi', TO_DATE('1999-03-31', 'YYYY-MM-DD'), 3.99, 'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (9, 'The Lord of the Rings: The Fellowship of the Ring', 'Adventure, Fantasy', TO_DATE('2001-
12-19', 'YYYY-MM-DD'), 4.99, 'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (10, 'Gladiator', 'Action, Adventure, Drama', TO_DATE('2000-05-05', 'YYYY-MM-DD'), 5.99,
'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
```



```
VALUES (11, 'Jurassic Park', 'Action, Adventure, Sci-Fi', TO_DATE('1993-06-11', 'YYYY-MM-DD'), 3.99, 'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (12, 'Toy Story', 'Animation, Adventure, Comedy', TO_DATE('1995-11-22', 'YYYY-MM-DD'),
2.99, 'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (13, 'The Lion King', 'Animation, Adventure, Drama', TO_DATE('1994-06-24', 'YYYY-MM-DD'),
3.99, 'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (14, 'Harry Potter and the Philosopher\'s Stone', 'Adventure, Family, Fantasy',
TO_DATE('2001-11-16', 'YYYY-MM-DD'), 4.99, 'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (15, 'Back to the Future', 'Adventure, Sci-Fi', TO_DATE('1985-07-03', 'YYYY-MM-DD'), 3.99,
'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (16, 'The Godfather Part II', 'Crime, Drama', TO_DATE('1974-12-20', 'YYYY-MM-DD'), 4.99,
'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (17, 'Schindler\'s List', 'Biography, Drama, History', TO_DATE('1993-11-30', 'YYYY-MM-DD'),
5.99, 'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (18, 'The Avengers', 'Action, Adventure, Sci-Fi', TO_DATE('2012-05-04', 'YYYY-MM-DD'), 3.99,
'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (19, 'The Harry Potter Series', 'Adventure, Family, Fantasy', TO_DATE('2001-11-12', 'YYYY-
MM-DD'), 4.99, 'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (20, 'Gone with the Wind', 'Drama, Romance', TO_DATE('1939-12-15', 'YYYY-MM-DD'), 5.99, 'A');
```

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (1, 'The Shawshank Redemption', 'Drama', TO_DATE('1994-09-23', 'YYYY-MM-DD'), 5.99, 'A');
```

|

Results Explain Describe Saved SQL History

1 row(s) inserted.

```
INSERT INTO Movie (Movie_ID, Title, Genre, Release_Date, Rental_Price, Availability_Status)
VALUES (2, 'The Godfather', 'Crime, Drama', TO_DATE('1972-03-24', 'YYYY-MM-DD'), 4.99, 'A');
```

|

Results Explain Describe Saved SQL History

1 row(s) inserted.

Similarly 20 entries

Rental Table

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (1, 1, 1, TO_DATE('2023-12-18', 'YYYY-MM-DD'), TO_DATE('2023-12-25', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (2, 2, 2, TO_DATE('2023-12-19', 'YYYY-MM-DD'), TO_DATE('2023-12-26', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (3, 3, 3, TO_DATE('2023-12-20', 'YYYY-MM-DD'), TO_DATE('2023-12-27', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (4, 4, 4, TO_DATE('2023-12-21', 'YYYY-MM-DD'), TO_DATE('2023-12-28', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (5, 5, 5, TO_DATE('2023-12-22', 'YYYY-MM-DD'), TO_DATE('2023-12-29', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (6, 6, 6, TO_DATE('2023-12-23', 'YYYY-MM-DD'), TO_DATE('2023-12-30', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (7, 7, 7, TO_DATE('2023-12-24', 'YYYY-MM-DD'), TO_DATE('2023-12-31', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (8, 8, 8, TO_DATE('2023-12-25', 'YYYY-MM-DD'), TO_DATE('2024-01-01', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (9, 9, 9, TO_DATE('2023-12-26', 'YYYY-MM-DD'), TO_DATE('2024-01-02', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (10, 10, 10, TO_DATE('2023-12-27', 'YYYY-MM-DD'), TO_DATE('2024-01-03', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (11, 11, 11, TO_DATE('2023-12-28', 'YYYY-MM-DD'), TO_DATE('2024-01-04', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (12, 12, 12, TO_DATE('2023-12-29', 'YYYY-MM-DD'), TO_DATE('2024-01-05', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (13, 13, 13, TO_DATE('2023-12-30', 'YYYY-MM-DD'), TO_DATE('2024-01-06', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (14, 14, 14, TO_DATE('2023-12-31', 'YYYY-MM-DD'), TO_DATE('2024-01-07', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (15, 15, 15, TO_DATE('2024-01-01', 'YYYY-MM-DD'), TO_DATE('2024-01-08', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (16, 16, 16, TO_DATE('2024-01-02', 'YYYY-MM-DD'), TO_DATE('2024-01-09', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (17, 17, 17, TO_DATE('2024-01-03', 'YYYY-MM-DD'), TO_DATE('2024-01-10', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (18, 18, 18, TO_DATE('2024-01-04', 'YYYY-MM-DD'), TO_DATE('2024-01-11', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (19, 19, 19, TO_DATE('2024-01-05', 'YYYY-MM-DD'), TO_DATE('2024-01-12', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (20, 20, 20, TO_DATE('2024-01-06', 'YYYY-MM-DD'), TO_DATE('2024-01-13', 'YYYY-MM-DD'));
```

```
INSERT INTO Rental (Rental_ID, Customer_ID, Movie_ID, Rental_Date, Return_Date)
VALUES (1, 1, 1, TO_DATE('2023-12-18', 'YYYY-MM-DD'), TO_DATE('2023-12-25', 'YYYY-MM-DD'));
```

Results	Explain	Describe	Saved SQL	History
----------------	---------	----------	-----------	---------

1 row(s) inserted.

0.00 seconds

Payment Table

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (1, 1, TO_DATE('2023-12-20', 'YYYY-MM-DD'), 4.99, 'Credit Card');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (2, 2, TO_DATE('2023-12-21', 'YYYY-MM-DD'), 5.99, 'Debit Card');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (3, 3, TO_DATE('2023-12-22', 'YYYY-MM-DD'), 6.99, 'PayPal');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (4, 4, TO_DATE('2023-12-23', 'YYYY-MM-DD'), 3.99, 'Credit Card');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (5, 5, TO_DATE('2023-12-24', 'YYYY-MM-DD'), 7.99, 'Debit Card');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (6, 6, TO_DATE('2023-12-25', 'YYYY-MM-DD'), 4.49, 'Cash');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (7, 7, TO_DATE('2023-12-26', 'YYYY-MM-DD'), 5.50, 'Credit Card');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (8, 8, TO_DATE('2023-12-27', 'YYYY-MM-DD'), 6.75, 'PayPal');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (9, 9, TO_DATE('2023-12-28', 'YYYY-MM-DD'), 4.99, 'Credit Card');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (10, 10, TO_DATE('2023-12-29', 'YYYY-MM-DD'), 7.50, 'Debit Card');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (11, 11, TO_DATE('2023-12-30', 'YYYY-MM-DD'), 8.99, 'Cash');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (12, 12, TO_DATE('2023-12-31', 'YYYY-MM-DD'), 5.25, 'Credit Card');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (13, 13, TO_DATE('2024-01-01', 'YYYY-MM-DD'), 6.00, 'PayPal');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (14, 14, TO_DATE('2024-01-02', 'YYYY-MM-DD'), 4.50, 'Debit Card');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (15, 15, TO_DATE('2024-01-03', 'YYYY-MM-DD'), 5.99, 'Credit Card');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (16, 16, TO_DATE('2024-01-04', 'YYYY-MM-DD'), 7.25, 'Cash');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
VALUES (17, 17, TO_DATE('2024-01-05', 'YYYY-MM-DD'), 8.50, 'PayPal');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
```

```
VALUES (18, 18, TO_DATE('2024-01-06', 'YYYY-MM-DD'), 5.75, 'Debit Card');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
```

```
VALUES (19, 19, TO_DATE('2024-01-07', 'YYYY-MM-DD'), 7.00, 'Credit Card');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
```

```
VALUES (20, 20, TO_DATE('2024-01-08', 'YYYY-MM-DD'), 6.25, 'Cash');
```

```
INSERT INTO Payment (Payment_ID, Rental_ID, Payment_Date, Amount, Payment_Method)
```

```
VALUES (1, 1, TO_DATE('2023-12-20', 'YYYY-MM-DD'), 4.99, 'Credit Card');
```

|

Results	Explain	Describe	Saved SQL	History
---------	---------	----------	-----------	---------

1 row(s) inserted.

Staff Table

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)
```

```
VALUES (1, 'Alice Johnson', 'Manager', '555-0101');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)
```

```
VALUES (2, 'Bob Smith', 'Assistant Manager', '555-0102');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)
```

```
VALUES (3, 'Charlie Brown', 'Customer Service', '555-0103');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)
```

```
VALUES (4, 'Diana Wilson', 'Clerk', '555-0104');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)
```

```
VALUES (5, 'Ethan Davis', 'Sales Representative', '555-0105');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)
```

```
VALUES (6, 'Fiona Lee', 'Inventory Manager', '555-0106');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)  
VALUES (7, 'George Martin', 'Technician', '555-0107');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)  
VALUES (8, 'Hannah Clark', 'Cashier', '555-0108');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)  
VALUES (9, 'Ian Harris', 'Security', '555-0109');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)  
VALUES (10, 'Jackie Roberts', 'Cleaner', '555-0110');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)  
VALUES (11, 'Karen Lewis', 'Maintenance', '555-0111');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)  
VALUES (12, 'Liam Wright', 'Supervisor', '555-0112');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)  
VALUES (13, 'Mona Patel', 'HR Manager', '555-0113');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)  
VALUES (14, 'Noah Thompson', 'Marketing Coordinator', '555-0114');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)  
VALUES (15, 'Olivia Hill', 'Receptionist', '555-0115');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)  
VALUES (16, 'Paul Young', 'Driver', '555-0116');
```



```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)
VALUES (17, 'Quinn Harris', 'Chef', '555-0117');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)
VALUES (18, 'Ryan Turner', 'Event Coordinator', '555-0118');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)
VALUES (19, 'Sophie James', 'Barista', '555-0119');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)
VALUES (20, 'Tina Smith', 'Trainer', '555-0120');
```

```
INSERT INTO Staff (Staff_ID, Name, Role, Contact_Number)
VALUES (20, 'Tina Smith', 'Trainer', '555-0120');
```

Results	Explain	Describe	Saved SQL	History
----------------	----------------	-----------------	------------------	----------------

1 row(s) inserted.

1.2 SELECT ALL ROWS FROM CUSTOMER

```
SELECT * FROM Customer
```

Results Explain Describe Saved SQL History

CUSTOMER_ID	NAME	ADDRESS	PHONE_NUMBER	EMAIL
18	Riley Moore	1515 Oak Road	555-1818	riley.moore@example.com
19	Sophia Brown	1616 Pine Circle	555-1919	sophia.brown@example.com
20	Tyler Garcia	1717 Cedar Court	555-2020	tyler.garcia@example.com
11	Customer Eleven	123 Main St	555-0111	customer11@example.com
1	Alice Green	123 Elm Street	555-0101	alice.green@example.com
2	Bob Smith	456 Oak Avenue	555-0202	bob.smith@example.com
3	Charlie Johnson	789 Pine Lane	555-0303	charlie.johnson@example.com
4	Daisy Miller	101 Maple Drive	555-0404	daisy.miller@example.com
5	Ethan Taylor	202 Birch Boulevard	555-0505	ethan.taylor@example.com
6	Fiona Brown	303 Cedar Street	555-0606	fiona.brown@example.com
More than 10 rows available. Increase rows selector to view more rows.				

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

1.3 SELECT ALL ROWS FROM MOVIE

```
SELECT * FROM Movie
```

Results

Explain

Describe

Saved SQL

History

MOVIE_ID	TITLE	GENRE	RELEASE_DATE	RENTAL_PRICE	AVAILABILITY_STATUS
20	Gone with the Wind	Drama, Romance	15-DEC-39	5.99	A
1	The Shawshank Redemption	Drama	23-SEP-94	5.99	A
2	The Godfather	Crime, Drama	24-MAR-72	4.99	A
3	The Dark Knight	Action, Crime, Drama	18-JUL-08	3.99	A
4	Pulp Fiction	Crime, Drama	14-OCT-94	5.99	A
5	Forrest Gump	Drama, Romance	06-JUL-94	4.99	A
6	Inception	Action, Adventure, Sci-Fi	16-JUL-10	3.99	A
7	Fight Club	Drama	15-OCT-99	5.99	A
8	The Matrix	Action, Sci-Fi	31-MAR-99	3.99	A
9	The Lord of the Rings: The Fellowship of the Ring	Adventure, Fantasy	19-DEC-01	4.99	A
More than 10 rows available. Increase rows selector to view more rows.					

10 rows returned in 0.00 seconds

[CSV Export](#)

1.4 SELECT ALL ROWS FROM RENTAL

```
SELECT * FROM Rental
```

Results Explain Describe Saved SQL History

RENTAL_ID	CUSTOMER_ID	MOVIE_ID	RENTAL_DATE	RETURN_DATE
20	20	20	06-JAN-24	13-JAN-24
19	19	19	05-JAN-24	12-JAN-24
1	1	1	18-DEC-23	25-DEC-23
2	2	2	19-DEC-23	26-DEC-23
3	3	3	20-DEC-23	27-DEC-23
4	4	4	21-DEC-23	28-DEC-23
5	5	5	22-DEC-23	29-DEC-23
18	18	18	04-JAN-24	11-JAN-24
17	17	17	03-JAN-24	10-JAN-24
16	16	16	02-JAN-24	09-JAN-24
More than 10 rows available. Increase rows selector to view more rows.				

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

1.5 SELECT ALL ROWS FROM PAYMENT

```
SELECT * FROM Payment|
```

Results Explain Describe Saved SQL History

PAYMENT_ID	RENTAL_ID	PAYMENT_DATE	AMOUNT	PAYMENT_METHOD
1	1	20-DEC-23	4.99	Credit Card
2	2	21-DEC-23	5.99	Debit Card
3	3	22-DEC-23	6.99	PayPal
20	20	08-JAN-24	6.25	Cash
19	19	07-JAN-24	7	Credit Card
18	18	06-JAN-24	5.75	Debit Card
17	17	05-JAN-24	8.5	PayPal
16	16	04-JAN-24	7.25	Cash
15	15	03-JAN-24	5.99	Credit Card
14	14	02-JAN-24	4.5	Debit Card

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

10 rows returned in 0.00 seconds

[CSV Export](#)

1.6 SELECT ALL ROWS FROM STAFF

```
SELECT * FROM Staff
```

Results Explain Describe Saved SQL History

PAYMENT_ID	RENTAL_ID	PAYMENT_DATE	AMOUNT	PAYMENT_METHOD
1	1	20-DEC-23	4.99	Credit Card
2	2	21-DEC-23	5.99	Debit Card
3	3	22-DEC-23	6.99	PayPal
20	20	08-JAN-24	6.25	Cash
19	19	07-JAN-24	7	Credit Card
18	18	06-JAN-24	5.75	Debit Card
17	17	05-JAN-24	8.5	PayPal
16	16	04-JAN-24	7.25	Cash
15	15	03-JAN-24	5.99	Credit Card
14	14	02-JAN-24	4.5	Debit Card
More than 10 rows available. Increase rows selector to view more rows.				

10 rows returned in 0.00 seconds

[CSV Export](#)

2 QUERIES

2.1.1 Count the Total Number of Customers

```
SELECT COUNT(*) AS Total_Customers  
FROM Customer;
```

Results Explain Describe Saved SQL H

TOTAL_CUSTOMERS
20

2.1.2 Find Orders Placed on a Specific Date

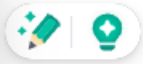
```
SELECT *  
FROM Rental  
WHERE Rental_Date = TO_DATE('2024-12-01', 'YYYY-MM-DD');
```

Results Explain Describe Saved SQL History

no data found

2.1.3 Find Customers from a Specific City

```
SELECT *  
FROM Customer  
WHERE Address LIKE '%Chicago%';
```



Results Explain Describe Saved SQL History

no data found

2.1.4 Get Payment Details for a Specific Rental

```
SELECT p.Payment_ID, p.Payment_Date, p.Amount, p.Payment_Method  
FROM Payment p  
JOIN Rental r ON p.Rental_ID = r.Rental_ID  
WHERE r.Rental_ID = 15;
```

Results Explain Describe Saved SQL History

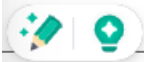
PAYMENT_ID	PAYMENT_DATE	AMOUNT	PAYMENT_METHOD
15	03-JAN-24	5.99	Credit Card

1 rows returned in 0.00 seconds

[CSV Export](#)

2.1.5 Show All Movies Rented by a Specific Customer

```
SELECT m.Movie_ID, m.Title, r.Rental_Date, r.Return_Date
FROM Rental r
JOIN Movie m ON r.Movie_ID = m.Movie_ID
WHERE r.Customer_ID = 5;
```



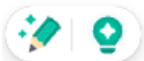
Results Explain Describe Saved SQL History

MOVIE_ID	TITLE	RENTAL_DATE	RETURN_DATE
5	Forrest Gump	22-DEC-23	29-DEC-23

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

2.1.6 Get Total Rentals for a Specific Customer

```
SELECT COUNT(*) AS Total_Rentals
FROM Rental
WHERE Customer_ID = 5;
```



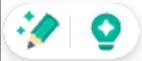
Results Explain Describe Saved SQL History

TOTAL_RENTALS
1

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

2.1.7 Count Total Movies per Genre

```
SELECT Genre, COUNT(*) AS Total_Movies
FROM Movie
GROUP BY Genre
ORDER BY Total_Movies DESC;
```



Results Explain Describe Saved SQL History

GENRE	TOTAL_MOVIES
Crime, Drama	3
Action, Adventure, Sci-Fi	3
Drama	2
Drama, Romance	2
Adventure, Family, Fantasy	2
Animation, Adventure, Drama	1
Adventure, Sci-Fi	1
Action, Crime, Drama	1
Action, Sci-Fi	1
Action, Adventure, Drama	1
More than 10 rows available. Increase rows selector to view more rows.	

10 rows returned in 0.00 seconds

[CSV Export](#)

2.2 TRIGGER RELATED QUERIES:

2.2.1 Trigger to automatically update stock when a movie is rented

Home > SQL > SQL Commands

☒ Autocommit Display 10

```
CREATE OR REPLACE TRIGGER Update_Movie_Availability
AFTER INSERT OR UPDATE ON Rental
FOR EACH ROW
BEGIN
    -- Decrease the availability status of the movie based on rental
    UPDATE Movie
    SET Availability_Status = 'UNAVAILABLE'
    WHERE Movie_ID = :NEW.Movie_ID;
END;
/
```

Results Explain Describe Saved SQL History

Trigger created.

0.03 seconds

3 SIZE ESTIMATION

3.1 1. TABLE SIZE ESTIMATION

3.1.1 Customer Table:

- **Row Size:** 218 bytes
- **Row Count:** 1,000 rows
- **Table Size:** $218 \times 1,000 = 218,000$ bytes = 218 KB

3.1.2 Movie Table:

- **Row Size:** 106 bytes
- **Row Count:** 1,000 rows
- **Table Size:** $106 \times 1,000 = 106,000$ bytes = 106 KB

3.1.3 Rental Table:

- **Row Size:** 35 bytes
- **Row Count:** 1,000 rows
- **Table Size:** $35 \times 1,000 = 35,000$ bytes = 35 KB

3.1.4 Payment Table:

- **Row Size:** 43 bytes
- **Row Count:** 1,000 rows
- **Table Size:** $43 \times 1,000 = 43,000$ bytes = 43 KB

3.1.5 Staff Table:

- **Row Size:** 186 bytes
- **Row Count:** 1,000 rows
- **Table Size:** $186 \times 1,000 = 186,000$ bytes = 186 KB

3.2 2. DATABASE SIZE ESTIMATION

- **Total Table Size:** $218\text{KB} + 106\text{KB} + 35\text{KB} + 43\text{KB} + 186\text{KB} = 588\text{KB}$
- **Index Overhead (30%):** $588\text{KB} \times 0.3 = 176\text{KB}$
- **Total Database Size (including indexes):** $588\text{KB} + 176\text{KB} = 764\text{KB} \approx 0.75\text{MB}$

3.3 3. DYNAMIC SQL QUERIES FOR DATABASE SIZE

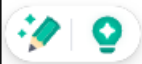
To check the table sizes and total database size dynamically in Oracle:

```
-- Table Sizes
SELECT segment_name AS table_name,
       bytes/1024/1024 AS size_in_mb
FROM user_segments
WHERE segment_type = 'TABLE';

-- Row Counts
SELECT table_name,
       num_rows
FROM user_tables;

-- Database Size
SELECT SUM(bytes)/1024/1024 AS database_size_in_mb
FROM user_segments;
```

```
SELECT segment_name AS table_name,  
       bytes/1024/1024 AS size_in_mb  
FROM user_segments  
WHERE segment_type = 'TABLE';
```



Results Explain Describe Saved SQL History

TABLE_NAME	SIZE_IN_MB
CUSTOMER	.0625
MOVIE	.0625
RENTAL	.0625
PAYMENT	.0625
STAFF	.0625
HTMLDB_PLAN_TABLE	.0625

6 rows returned in 0.06 seconds

[CSV Export](#)

```
SELECT table_name,  
       num_rows  
FROM user_tables;
```

|

Results Explain Describe Saved SQL History

TABLE_NAME	NUM_ROWS
CUSTOMER	-
MOVIE	-
RENTAL	-
PAYMENT	-
STAFF	-
HTMLDB_PLAN_TABLE	-

6 rows returned in 0.05 seconds

[CSV Export](#)

```
SELECT SUM(bytes)/1024/1024 AS database_size_in_mb  
FROM user_segments;
```

Results Explain Describe Saved SQL History

DATABASE_SIZE_IN_MB
.6875

1 rows returned in 0.05 seconds

[CSV Export](#)

PROJECT WEBSITE

3.4 CUSTOMER PAGE

 **Customer List**

Customer_ID	Name	Address	Phone_Number	Email
21	Alice Green	123 Elm Street	555-0101	alice.green@example.com
22	Bob Smith	456 Oak Avenue	555-0202	bob.smith@example.com
23	Charlie Johnson	789 Pine Lane	555-0303	charlie.johnson@example.com
24	Daisy Miller	101 Maple Drive	555-0404	daisy.miller@example.com
25	Ethan Taylor	202 Birch Boulevard	555-0505	ethan.taylor@example.com

1

2

3

4

5

6

7

8

9

10

...

3.4.1 CUSOTOMER.ASPX

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

```
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title>Customer List</title>
  <style>
    body {
      margin: 0;
      font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
      background-color: #000;
      color: #fff;
    }

    .header {
      background-color: #1a1a1a;
      padding: 40px 20px 30px;
      text-align: center;
      color: #ff4081;
    }

    .header h2 {
      font-size: 32px;
      margin-bottom: 10px;
    }

    .container {
      margin: 40px auto;
      max-width: 1000px;
      padding: 20px;
    }
  </style>
</head>
<body>
  <div>
    <img alt="User icon" data-bbox="418 204 438 218"/>
    <b>Customer List</b>
  </div>
  <table>
    <tr>
      <th>Customer_ID</th>
      <th>Name</th>
      <th>Address</th>
      <th>Phone_Number</th>
      <th>Email</th>
    </tr>
    <tr>
      <td>21</td>
      <td>Alice Green</td>
      <td>123 Elm Street</td>
      <td>555-0101</td>
      <td>alice.green@example.com</td>
    </tr>
    <tr>
      <td>22</td>
      <td>Bob Smith</td>
      <td>456 Oak Avenue</td>
      <td>555-0202</td>
      <td>bob.smith@example.com</td>
    </tr>
    <tr>
      <td>23</td>
      <td>Charlie Johnson</td>
      <td>789 Pine Lane</td>
      <td>555-0303</td>
      <td>charlie.johnson@example.com</td>
    </tr>
    <tr>
      <td>24</td>
      <td>Daisy Miller</td>
      <td>101 Maple Drive</td>
      <td>555-0404</td>
      <td>daisy.miller@example.com</td>
    </tr>
    <tr>
      <td>25</td>
      <td>Ethan Taylor</td>
      <td>202 Birch Boulevard</td>
      <td>555-0505</td>
      <td>ethan.taylor@example.com</td>
    </tr>
  </table>
  <div>
    <div>1</div>
    <div>2</div>
    <div>3</div>
    <div>4</div>
    <div>5</div>
    <div>6</div>
    <div>7</div>
    <div>8</div>
    <div>9</div>
    <div>10</div>
    <div>...</div>
  </div>
</body>
</html>
```

```

        .table {
            width: 100%;
            border-collapse: collapse;
            background-color: #1a1a1a;
            color: #fff;
        }

        .table th, .table td {
            border: 1px solid #ff4081;
            padding: 10px;
            text-align: left;
        }

        .table th {
            background-color: #ff4081;
            color: #fff;
        }

        .table tr:nth-child(even) {
            background-color: #2a2a2a;
        }

        .table tr:hover {
            background-color: #333;
        }

        body::before {
            content: "";
            position: fixed;
            top: 0; left: 0; right: 0; bottom: 0;
            background: linear-gradient(135deg, #0d0d0d 0%, #1a1a1a 100%);
            z-index: -1;
        }
    </style>
</head>
<body>
    <form id="form1" runat="server">
        <div class="header">
            <h2>👤 Customer List</h2>
        </div>

        <div class="container">
            <asp:GridView ID="GridView1" runat="server"
                AutoGenerateColumns="True"
                CssClass="table" EmptyDataText="No records found"
                Width="100%" AllowPaging="True" PageSize="5">
            </asp:GridView>
        </div>
    </form>
</body>
</html>

```

3.4.2 CUSTOMER.APSP.VB

```

Imports System.Data
Imports System.Data.SqlClient

Public Class Customers
    Inherits System.Web.UI.Page

```

```

Private conStr As String = "workstation
id=movierentalsystem1.mssql.somee.com;packet size=4096;user
id=zainabtariq_SQLLogin_1;pwd=9n1ha3okxt;data
source=movierentalsystem1.mssql.somee.com;persist security info=False;initial
catalog=movierentalsystem1;TrustServerCertificate=True"

Protected Sub Page_Load(ByVal sender As Object, ByVal e As EventArgs)
    If Not IsPostBack Then

        LoadCustomers()
    End If
End Sub

Private Sub LoadCustomers()
    Using con As New SqlConnection(conStr)
        Try

            con.Open()
            Dim query As String = "SELECT Customer_ID, Name, Address,
Phone_Number, Email FROM Customer"

            Using cmd As New SqlCommand(query, con)
                Dim da As New SqlDataAdapter(cmd)
                Dim dt As New DataTable()
                da.Fill(dt)

                If dt.Rows.Count > 0 Then

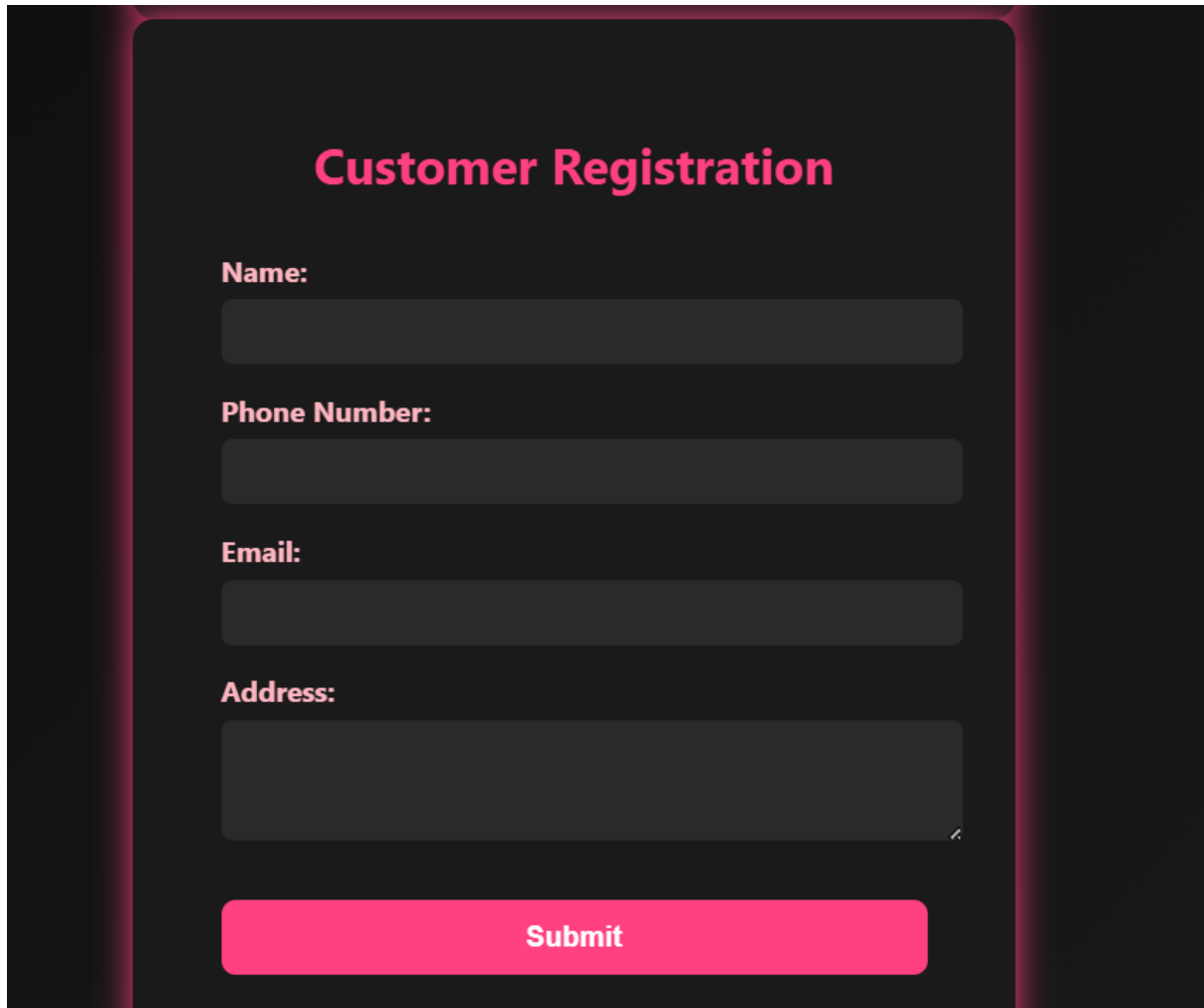
                    GridView1.DataSource = dt
                    GridView1.DataBind()
                Else

                    GridView1.EmptyDataText = "No customer records found."
                    GridView1.DataBind()
                End If
            End Using

            Catch ex As Exception
                Response.Write("Error: " & ex.Message)
            End Try
        End Using
    End Sub
End Class

```


3.4.3 CustomerForm.aspx

A screenshot of a web form titled "Customer Registration" in a bold, black, sans-serif font. The form is set against a light gray background with a subtle grid. It contains four input fields, each preceded by a label: "Name:", "Phone Number:", "Email:", and "Address:". The "Name:" and "Phone Number:" labels are in a bold, black font, while the others are in a regular weight. The input fields are white with a light gray border. Below the "Address:" field is a large, rounded rectangular button with a blue gradient and the word "Submit" in white, bold, sans-serif font. The entire form is enclosed in a thin black border.

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

```
<!DOCTYPE html>
<html>
<head>
  <title>Customer Form</title>
  <style>
    body {
      margin: 0;
      font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
      background-color: #000;
      color: #fff;
      display: flex;
      justify-content: center;
      align-items: center;
      min-height: 100vh;
    }

    body::before {
      content: "";
      position: fixed;
      top: 0; left: 0; right: 0; bottom: 0;
      background: linear-gradient(135deg, #0d0d0d 0%, #1a1a1a 100%);
    }
  </style>
</head>
<body>
```

```

        z-index: -1;
    }

    div {
        background-color: #1a1a1a;
        padding: 40px 50px;
        border-radius: 12px;
        box-shadow: 0 0 20px #ff4081;
        width: 400px;
    }

    h2 {
        color: #ff4081;
        text-align: center;
        margin-bottom: 30px;
        font-weight: 700;
        font-size: 28px;
    }

    label {
        display: block;
        margin-top: 15px;
        font-weight: bold;
        color: #ffb6c1;
    }

    input[type="text"], input[type="email"], textarea, .aspNetTextBox {
        width: 100%;
        padding: 10px;
        margin-top: 6px;
        border-radius: 6px;
        border: none;
        background-color: #2a2a2a;
        color: #fff;
        font-size: 14px;
    }

    input[type="text"]:focus, input[type="email"]:focus, textarea:focus,
    .aspNetTextBox:focus {
        outline: none;
        box-shadow: 0 0 5px #ff4081;
    }

    .styled-button {
        margin-top: 30px;
        background-color: #ff4081;
        color: white;
        border: none;
        padding: 12px;
        font-size: 16px;
        border-radius: 8px;
        cursor: pointer;
        width: 100%;
        font-weight: 600;
        transition: background-color 0.3s ease;
    }

    .styled-button:hover {
        background-color: #e6005c;
    }

    #<%= lblMessage.ClientID %> {
        margin-top: 20px;
    }

```

```

        text-align: center;
        font-weight: 600;
        color: #ff4081;
        display: block;
    }
</style>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <h2>Customer Registration</h2>
            <asp:Label ID="lblName" runat="server" Text="Name:"
AssociatedControlID="txtName" />
            <asp:TextBox ID="txtName" runat="server" CssClass="aspNetTextBox" />

            <asp:Label ID="lblPhone_Number" runat="server" Text="Phone Number:"
AssociatedControlID="txtPhone_Number" />
            <asp:TextBox ID="txtPhone_Number" runat="server"
CssClass="aspNetTextBox" />

            <asp:Label ID="lblEmail" runat="server" Text="Email:"
AssociatedControlID="txtEmail" />
            <asp:TextBox ID="txtEmail" runat="server" CssClass="aspNetTextBox"
TextMode="Email" />

            <asp:Label ID="lblAddress" runat="server" Text="Address:"
AssociatedControlID="txtAddress" />
            <asp:TextBox ID="txtAddress" runat="server" CssClass="aspNetTextBox"
TextMode="MultiLine" Rows="3" />

            <asp:Button ID="btnSubmit" runat="server" Text="Submit"
CssClass="styled-button" OnClick="btnSubmit_Click" />
            <asp:Label ID="lblMessage" runat="server" />
        </div>
    </form>
</body>
</html>

```

3.4.4 CustomerForm.aspx.vb

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

```
Partial Class CustomerForm
```

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

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

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

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

```
        Dim email As String = txtEmail.Text.Trim()
```

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

```

        Dim con As New SqlConnection("workstation
id=movierentalsystem1.mssql.somee.com;packet size=4096;user
id=zainabtariq_SQLLogin_1;pwd=9n1ha3okxt;data
source=movierentalsystem1.mssql.somee.com;persist security info=False;initial
catalog=movierentalsystem1;TrustServerCertificate=True;Network
Library=DBMSSOCN;")

```

```

        Dim cmd As New SqlCommand("INSERT INTO Customer (Name, Phone_Number,
Email, Address) VALUES (@Name, @Phone_Number, @Email, @Address)", con)
        cmd.Parameters.AddWithValue("@Name", name)
        cmd.Parameters.AddWithValue("@Phone_Number", contact)

```

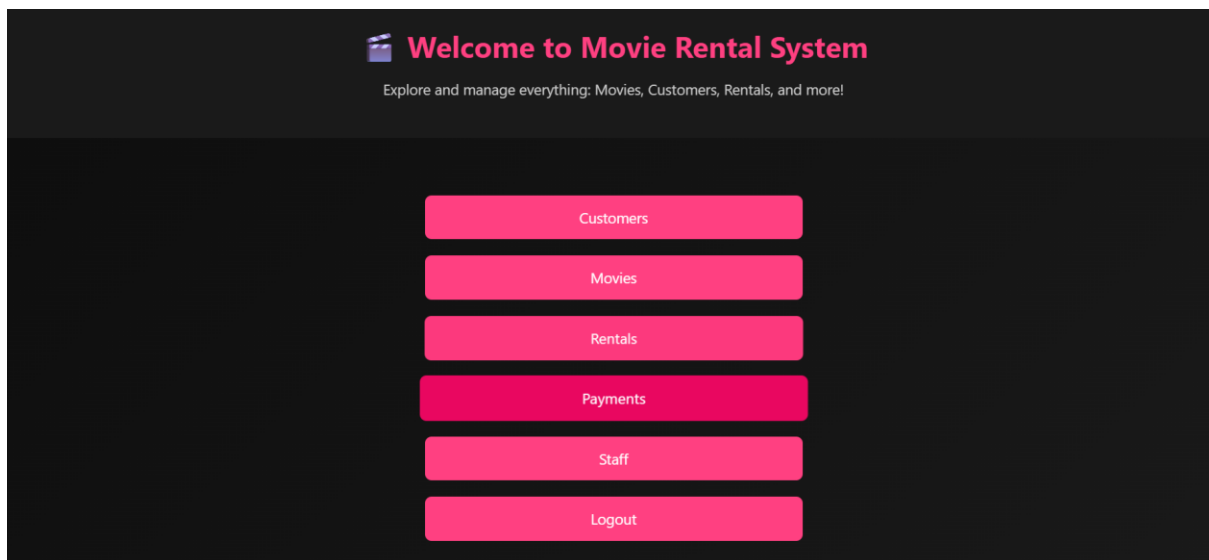
```

cmd.Parameters.AddWithValue("@Email", email)
cmd.Parameters.AddWithValue("@Address", address)

Try
    con.Open()
    cmd.ExecuteNonQuery()
    lblMessage.ForeColor = System.Drawing.Color.Green
    lblMessage.Text = "Customer added successfully."
Catch ex As Exception
    lblMessage.ForeColor = System.Drawing.Color.Red
    lblMessage.Text = "Error: " & ex.Message
Finally
    con.Close()
End Try
End Sub
End Class

```

3.5 HOME PAGE



3.5.1 Home.aspx

```

<%@ Page Language="VB" AutoEventWireup="true" CodeFile="Home.aspx.vb"
Inherits="Home" %>

<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Home - Movie Rental System</title>
    <style>
        body {
            margin: 0;
            font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
            background-color: #000;
            color: #fff;
        }

        .header {
            background-color: #1a1a1a;
            padding: 50px 20px 30px;
            text-align: center;

```

```

        color: #ff4081;
    }

    .header h2 {
        font-size: 36px;
        margin-bottom: 10px;
    }

    .header p {
        font-size: 18px;
        color: #ccc;
    }

    .button-container {
        display: flex;
        flex-direction: column;
        align-items: center;
        gap: 20px;
        margin: 50px auto;
        padding: 20px;
        max-width: 400px;
    }

    .button-container a {
        font-size: 18px;
        text-decoration: none;
        color: #fff;
        background-color: #ff4081;
        padding: 15px 32px;
        border-radius: 8px;
        width: 100%;
        text-align: center;
        transition: background-color 0.3s ease, transform 0.3s ease;
    }

    .button-container a:hover {
        background-color: #e6005c;
        transform: scale(1.03);
    }

    body::before {
        content: "";
        position: fixed;
        top: 0; left: 0; right: 0; bottom: 0;
        background: linear-gradient(135deg, #0d0d0d 0%, #1a1a1a 100%);
        z-index: -1;
    }
</style>
</head>
<body>
    <form id="form1" runat="server">
        <div class="header">
            <h2>🎬 Welcome to Movie Rental System</h2>
            <p>Explore and manage everything: Movies, Customers, Rentals, and
more!</p>
        </div>

        <div class="button-container">
            <a href="Customers.aspx">Customers</a>
            <a href="Movies.aspx">Movies</a>
            <a href="Rentals.aspx">Rentals</a>
            <a href="Payments.aspx">Payments</a>
            <a href="Staff.aspx">Staff</a>

```

```

        <a href="Logout.aspx">Logout</a>
    </div>
</form>
</body>
</html>

```

3.5.2 Home.aspx.vb

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

```
Public Class Home
```

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

```
    Private connectionString As String =
```

```
    "Server=movierentalsystem1.mssql.somee.com;Database=movierentalsystem1;User
    Id=zainabtariq_SQLLogin_1;Password=9n1ha3okxt;TrustServerCertificate=True;Connect
    Timeout=30;"
```

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

```
        ConnectToDatabase()
```

```
    End Sub
```

```
    Private Sub ConnectToDatabase()
```

```
        Try
```

```
            Using conn As New SqlConnection(connectionString)
                conn.Open()
```

```
                If conn.State = System.Data.ConnectionState.Open Then
                    Response.Write("Connection successful!")
```

```
                Else
```

```
                    Response.Write("Failed to connect to database.")
```

```
                End If
```

```
            End Using
```

```
        Catch ex As Exception
```

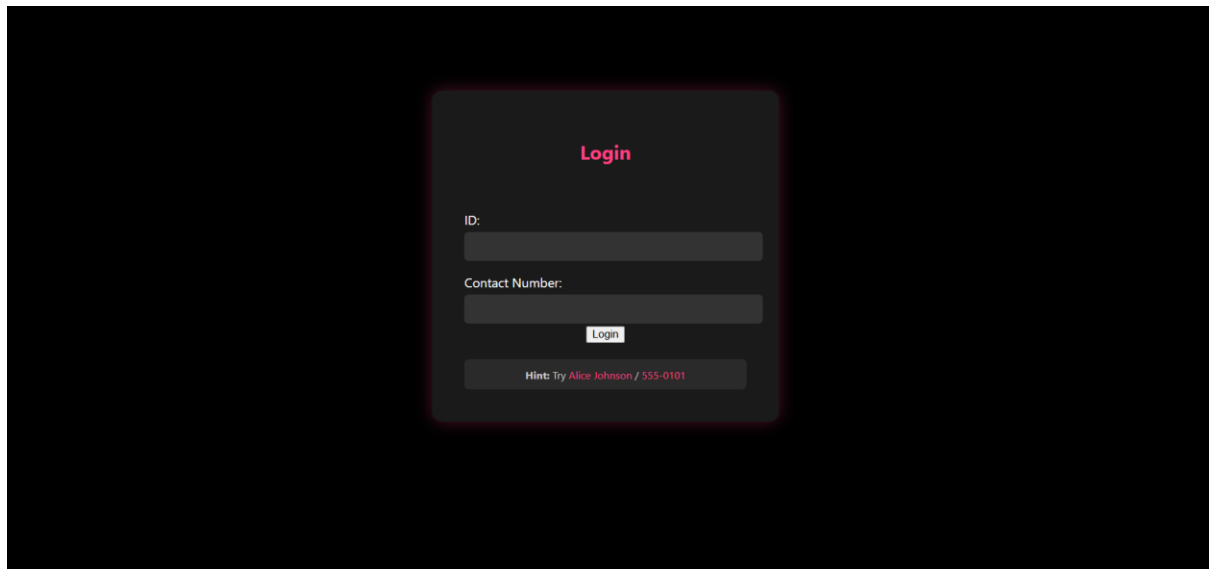
```
            Response.Write("Error: " & ex.Message)
```

```
        End Try
```

```
    End Sub
```

```
End Class
```

3.6 LOGIN PAGE



3.6.1 Login.aspx

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

<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Login - Movie Rental System</title>
    <style>
        body {
            margin: 0;
            font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
            background-color: #000;
            color: #fff;
        }

        .login-container {
            width: 350px;
            margin: 120px auto;
            padding: 40px;
            background-color: #1a1a1a;
            border-radius: 12px;
            box-shadow: 0 0 20px rgba(255, 64, 129, 0.3);
            text-align: center;
        }

        .login-container h2 {
            color: #ff4081;
            margin-bottom: 20px;
        }

        label, .login-container asp\:label {
            display: block;
            margin-top: 15px;
            color: #fff;
            text-align: left;
        }

        input[type="text"], input[type="password"], .login-container asp\:textbox
    {
```

```

        width: 100%;
        padding: 10px;
        margin-top: 5px;
        border: none;
        border-radius: 5px;
        background-color: #333;
        color: white;
    }

    .login-container asp\:button {
        margin-top: 20px;
        background-color: #ff4081;
        color: white;
        border: none;
        padding: 10px 20px;
        border-radius: 6px;
        font-size: 16px;
        cursor: pointer;
    }

    .login-container asp\:button:hover {
        background-color: #e91e63;
    }

    .error-message {
        color: red;
        margin-bottom: 15px;
        font-size: 14px;
    }

    .hint {
        margin-top: 20px;
        font-size: 13px;
        color: #ccc;
        background-color: #2a2a2a;
        padding: 10px;
        border-radius: 6px;
    }

    .hint span {
        color: #ff4081;
    }
</style>
</head>
<body>
    <form id="form1" runat="server">
        <div class="login-container">
            <h2>Login</h2>

            <asp:Label ID="lblMessage" runat="server" CssClass="error-message"
/><br />

            <asp:Label ID="Label1" runat="server" Text="ID:"
AssociatedControlID="txtStaffID" />
            <asp:TextBox ID="txtStaffID" runat="server" /><br />

            <asp:Label ID="Label2" runat="server" Text="Contact Number:"
AssociatedControlID="txtContact" />
            <asp:TextBox ID="txtContact" runat="server" TextMode="Password" /><br
/>

            <asp:Button ID="btnLogin" runat="server" Text="Login"
OnClick="btnLogin_Click" />

```



```

        <div class="hint">
            <strong>Hint:</strong> Try <span>Alice Johnson</span> /
<span>555-0101</span>
        </div>
    </div>
</form>
</body>
</html>

```

3.6.2 Login.aspx.vb

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

```
Partial Class Login
```

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

```

    Protected Sub btnLogin_Click(sender As Object, e As EventArgs)
        Dim staffID As Integer = Convert.ToInt32(txtStaffID.Text)
        Dim contact As String = txtContact.Text

        Dim conStr As String = "Data Source=YOUR_SERVER_NAME;Initial
Catalog=YOUR_DATABASE_NAME;Integrated Security=True"
        Using con As New SqlConnection(conStr)
            Dim query As String = "SELECT COUNT(*) FROM Staff WHERE Staff_ID =
@StaffID AND Contact_Number = @Contact"
            Dim cmd As New SqlCommand(query, con)
            cmd.Parameters.AddWithValue("@StaffID", staffID)
            cmd.Parameters.AddWithValue("@Contact", contact)

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

            If count = 1 Then
                Session("StaffID") = staffID
                Response.Redirect("Dashboard.aspx")
            Else
                lblMessage.Text = "Invalid Staff ID or Contact Number"
            End If
        End Using
    End Sub
End Class

```

3.6.3 Logout.aspx

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

```

<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Logging Out...</title>
</head>
<body>
    <form id="form1" runat="server">
        <div style="text-align:center; margin-top:100px;">
            <h2>Logging you out, please wait...</h2>
        </div>
    </form>
</body>
</html>

```

3.6.4 Logout.aspx.vb

Partial Class Logout

Inherits System.Web.UI.Page

```
Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load
    Session.Clear() ' Remove all session variables
    Session.Abandon() ' End the session
    Response.Redirect("Login.aspx")
```

End Sub

End Class

3.7 MOVIE PAGE

Movies							
Movie ID	Movie Name	Genre	Release Date	Rental Price	Availability Status		
1	The Shawshank Redemption	Drama	23/09/1994 12:00:00 am	5.99	A	Edit	Delete
2	The Godfather	Crime, Drama	24/03/1972 12:00:00 am	4.99	A	Edit	Delete
3	The Dark Knight	Action, Crime, Drama	18/07/2008 12:00:00 am	3.99	A	Edit	Delete
4	Pulp Fiction	Crime, Drama	14/10/1994 12:00:00 am	5.99	A	Edit	Delete
5	Forrest Gump	Drama, Romance	06/07/1994 12:00:00 am	4.99	A	Edit	Delete
6	Inception	Action, Adventure, Sci-Fi	16/07/2010 12:00:00 am	3.99	A	Edit	Delete
7	Fight Club	Drama	15/10/1999 12:00:00 am	5.99	A	Edit	Delete
8	The Matrix	Action, Sci-Fi	31/03/1999 12:00:00 am	3.99	A	Edit	Delete
9	The Lord of the Rings: The Fellowship of the Ring	Adventure, Fantasy	19/12/2001 12:00:00 am	4.99	A	Edit	Delete
10	Gladiator	Action, Adventure, Drama	05/05/2000 12:00:00 am	5.99	A	Edit	Delete
11	Jurassic Park	Action, Adventure, Sci-Fi	11/06/1993 12:00:00 am	3.99	A	Edit	Delete
12	Toy Story	Animation, Adventure, Comedy	22/11/1995 12:00:00 am	2.99	A	Edit	Delete

3.7.1 MovieForm.aspx

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

```
<!DOCTYPE html>
```

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

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

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

```
<style>
```

```
body {
```

```
margin: 0;
```

```
font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
```

```
background-color: #000;
```

```
color: #fff;
```

```
display: flex;
```

```
justify-content: center;
```

```
align-items: center;
```

```
min-height: 100vh;
```

```
}
```

```
div {
```

```
background-color: #1a1a1a;
```

```
padding: 40px 50px;
```

```
border-radius: 12px;
```

```

        box-shadow: 0 0 20px #ff4081;
        width: 400px;
    }

    h2 {
        color: #ff4081;
        text-align: center;
        margin-bottom: 30px;
        font-weight: 700;
        font-size: 28px;
    }

    label {
        display: block;
        margin-top: 15px;
        font-weight: bold;
        color: #ffb6c1;
    }

    input[type="text"], .aspNetTextBox {
        width: 100%;
        padding: 10px;
        margin-top: 6px;
        border-radius: 6px;
        border: none;
        background-color: #2a2a2a;
        color: #fff;
        font-size: 14px;
    }

    input[type="text"]:focus, .aspNetTextBox:focus {
        outline: none;
        box-shadow: 0 0 5px #ff4081;
    }

    .styled-button {
        margin-top: 30px;
        background-color: #ff4081;
        color: white;
        border: none;
        padding: 12px;
        font-size: 16px;
        border-radius: 8px;
        cursor: pointer;
        width: 100%;
        font-weight: 600;
        transition: background-color 0.3s ease;
    }

    .styled-button:hover {
        background-color: #e6005c;
    }

    #<%= lblMessage.ClientID %> {
        margin-top: 20px;
        text-align: center;
        font-weight: 600;
        color: #ff4081;
        display: block;
    }
</style>
</head>
<body>

```

```

<form id="form1" runat="server">
    <div>
        <h2>Movie Form</h2>

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

        <label for="txtMovieTitle">Movie Title:</label>
        <asp:TextBox ID="txtMovieTitle" runat="server"
CssClass="aspNetTextBox" placeholder="Enter Movie Title"></asp:TextBox>

        <label for="txtMovieGenre">Genre:</label>
        <asp:TextBox ID="txtMovieGenre" runat="server"
CssClass="aspNetTextBox" placeholder="Enter Movie Genre"></asp:TextBox>

        <label for="txtRentalPrice">Rental Price:</label>
        <asp:TextBox ID="txtRentalPrice" runat="server"
CssClass="aspNetTextBox" placeholder="Enter Rental Price"></asp:TextBox>

        <asp:Button ID="btnSubmitMovie" runat="server" Text="Add Movie"
CssClass="styled-button" OnClick="btnSubmitMovie_Click" />
    </div>
</form>
</body>
</html>

```

3.7.2 MovieForm.aspx.vb

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

```
Public Class MovieForm
```

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

```
    Private conStr As String =
```

```
"Server=movierentalsystem1.mssql.somee.com;Database=movierentalsystem1;User
Id=zainabtariq_SQLLogin_1;Password=9n1ha3okxt;"
```

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

```
        Dim movieTitle As String = txtMovieTitle.Text.Trim()
```

```
        Dim genre As String = txtMovieGenre.Text.Trim()
```

```
        Dim rentalPrice As Decimal
```

```
        If Not Decimal.TryParse(txtRentalPrice.Text.Trim(), rentalPrice) Then
```

```
            lblMessage.Text = "Invalid Rental Price. Please enter a valid
number."
```

```
            Return
```

```
        End If
```

```
        If AddMovie(movieTitle, genre, rentalPrice) Then
```

```
            lblMessage.Text = "Movie added successfully!"
```

```
        Else
```

```
            lblMessage.Text = "Failed to add the movie. Please try again."
```

```
        End If
```

```
    End Sub
```

```
    Private Function AddMovie(title As String, genre As String, rentalPrice As
Decimal) As Boolean
```

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

```
            Try
```

```
                con.Open()
```

```

        Dim query As String = "INSERT INTO Movie (Title, Genre,
Rental_Price) VALUES (@Title, @Genre, @RentalPrice)"

        Using cmd As New SqlCommand(query, con)
            cmd.Parameters.AddWithValue("@Title", title)
            cmd.Parameters.AddWithValue("@Genre", genre)
            cmd.Parameters.AddWithValue("@RentalPrice", rentalPrice)

            cmd.ExecuteNonQuery()

            Return True
        End Using

    Catch ex As SqlException

        lblMessage.Text = "Error connecting to database: " & ex.Message
        Return False
    Catch ex As Exception

        lblMessage.Text = "An error occurred: " & ex.Message
        Return False
    Finally
        con.Close()
    End Try
End Using
End Function
End Class

```

3.7.3 Movies.aspx

```

<%@ Page Language="VB" Debug="true" AutoEventWireup="false"
CodeFile="Movies.aspx.vb" Inherits="Movies" %>
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Movies List</title>
    <style>
        body {
            background-color: #000;
            color: #fff;
            font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
        }

        h2 {
            color: #ff4081;
            text-align: center;
            margin-top: 30px;
        }

        .container {
            width: 90%;
            margin: auto;
            padding-top: 20px;
        }

        .styled-grid {
            width: 100%;
            border-collapse: collapse;
            margin-top: 20px;
        }
    </style>
</head>
<body>
    <h2>Movies List</h2>
    <div class="container">
        <div class="styled-grid">
            <table>
                <tr>
                    <th>Title</th>
                    <th>Genre</th>
                    <th>Rental Price</th>
                </tr>
                <tr>
                    <td>The Godfather</td>
                    <td>Crime</td>
                    <td>1972</td>
                </tr>
                <tr>
                    <td>The Godfather Part II</td>
                    <td>Crime</td>
                    <td>1974</td>
                </tr>
                <tr>
                    <td>The Godfather Part III</td>
                    <td>Crime</td>
                    <td>1990</td>
                </tr>
            </table>
        </div>
    </div>
</body>
</html>

```

```

        .styled-grid th, .styled-grid td {
            border: 1px solid #444;
            padding: 12px;
            text-align: left;
            color: white;
        }

        .styled-grid th {
            background-color: #1a1a1a;
            color: #ff4081;
        }

        .styled-grid tr:nth-child(even) {
            background-color: #2a2a2a;
        }

        .styled-grid tr:hover {
            background-color: #333;
        }

        .styled-grid .aspNetDisabled {
            opacity: 0.5;
        }

        .styled-button {
            background-color: #ff4081;
            color: white;
            border: none;
            padding: 10px 20px;
            margin-top: 20px;
            font-size: 14px;
            border-radius: 6px;
            cursor: pointer;
        }

        .styled-button:hover {
            background-color: #e91e63;
        }
    </style>
</head>
<body>
    <form id="form1" runat="server">
        <div class="container">
            <h2>Movies</h2>
            <asp:GridView ID="gvMovies" runat="server"
AutoGenerateColumns="False" DataKeyNames="Movie_ID"
                CssClass="styled-grid"
                OnRowEditing="gvMovies_RowEditing"
                OnRowDeleting="gvMovies_RowDeleting"
                OnRowCommand="gvMovies_RowCommand">
                <Columns>
                    <asp:BoundField DataField="Movie_ID" HeaderText="Movie ID"
SortExpression="Movie_ID" />
                    <asp:BoundField DataField="Title" HeaderText="Movie Name"
SortExpression="Title" />
                    <asp:BoundField DataField="Genre" HeaderText="Genre"
SortExpression="Genre" />
                    <asp:BoundField DataField="Release_Date" HeaderText="Release
Date" SortExpression="Release_Date" />
                    <asp:BoundField DataField="Rental_Price" HeaderText="Rental
Price" SortExpression="Rental_Price" />
                </Columns>
            </asp:GridView>
        </div>
    </form>

```

```

        <asp:BoundField DataField="Availability_Status"
HeaderText="Availability Status" SortExpression="Availability_Status" />

        <asp:ButtonField Text="Edit" CommandName="Edit"
ButtonType="Button" />
        <asp:ButtonField Text="Delete" CommandName="Delete"
ButtonType="Button" />
    </Columns>
</asp:GridView>
<br />
<asp:Button ID="btnAddNew" runat="server" Text="Add New Movie"
CssClass="styled-button" OnClick="btnAddNew_Click" />
</div>
</form>
</body>
</html>

```

3.7.4 Movies.aspx.vb

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

```
Public Class Movies
    Inherits System.Web.UI.Page
```

```

    Dim connString As String = "Data
Source=movierentalsystem1.mssql.somee.com;Initial Catalog=movierentalsystem1;User
ID=zainabtariq_SQLLogin_1;Password=9n1ha3okxt;Integrated Security=False;Packet
Size=4096;Persist Security Info=False;TrustServerCertificate=True"

```

```
    Dim conn As SqlConnection = New SqlConnection(connString)
```

```

    Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load
        If Not IsPostBack Then
            BindMoviesGrid()
        End If
    End Sub

```

```

    Private Sub BindMoviesGrid()
        Try

```

```

            Dim query As String = "SELECT Movie_ID, Title, Genre, Release_Date,
Rental_Price, Availability_Status FROM Movie"
            Dim cmd As SqlCommand = New SqlCommand(query, conn)
            conn.Open()

```

```

            Dim reader As SqlDataReader = cmd.ExecuteReader()
            gvMovies.DataSource = reader
            gvMovies.DataBind()

```

```

            conn.Close()
        Catch ex As Exception

```

```

            Response.Write("Error: " & ex.Message)
        End Try
    End Sub
    Protected Sub btnAddNew_Click(sender As Object, e As EventArgs)

```

```

        Response.Redirect("AddMovie.aspx")
    End Sub

```

```

        Protected Sub gvMovies_RowCommand(sender As Object, e As
GridViewCommandEventArgs)
            If e.CommandName = "Delete" Then
                Dim index As Integer = Convert.ToInt32(e.CommandArgument)
                Dim movieID As Integer =
Convert.ToInt32(gvMovies.DataKeys(index).Value)
                DeleteMovie(movieID)
            ElseIf e.CommandName = "Edit" Then

            End If
        End Sub

        Private Sub DeleteMovie(movieID As Integer)
            Try
                Dim query As String = "DELETE FROM Movie WHERE Movie_ID = @Movie_ID"
                Dim cmd As SqlCommand = New SqlCommand(query, conn)
                cmd.Parameters.AddWithValue("@Movie_ID", movieID)
                conn.Open()

                cmd.ExecuteNonQuery()
                conn.Close()

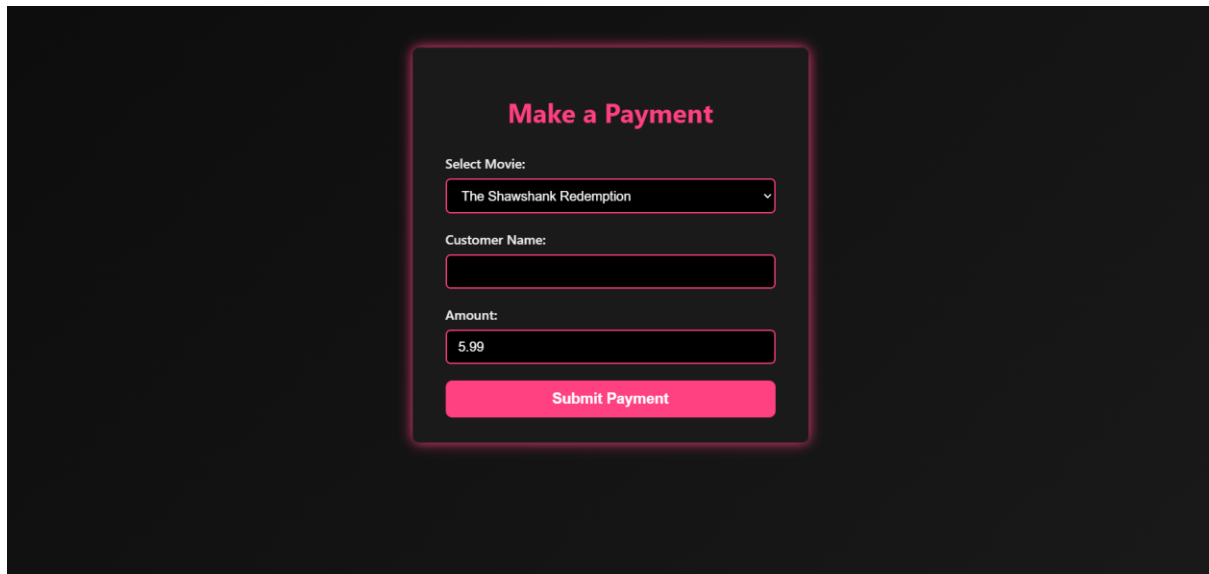
                BindMoviesGrid()

            Catch ex As Exception
                Response.Write("Error: " & ex.Message)
            End Try
        End Sub

        Protected Sub gvMovies_RowEditing(sender As Object, e As
GridViewEditEventArgs)
            gvMovies.EditIndex = e.NewEditIndex
            BindMoviesGrid()
        End Sub
        Protected Sub gvMovies_RowDeleting(sender As Object, e As
GridViewDeleteEventArgs)
            Dim movieID As Integer =
Convert.ToInt32(gvMovies.DataKeys(e.RowIndex).Value)
            DeleteMovie(movieID)
        End Sub
    End Class

```


3.8 PAYMENT



3.8.1 PaymentForm.aspx

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

```
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Payment Form</title>
    <style>
        body {
            margin: 0;
            font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
            background-color: #000;
            color: #fff;
            display: flex;
            justify-content: center;
            align-items: flex-start;
            min-height: 100vh;
            padding-top: 50px;
        }

        div {
            background-color: #1a1a1a;
            padding: 40px 40px 50px;
            border-radius: 12px;
            box-shadow: 0 0 20px #ff4081;
            width: 400px;
        }

        h2 {
            color: #ff4081;
            font-weight: 700;
            font-size: 28px;
            margin-bottom: 30px;
            text-align: center;
        }

        label, .aspNetLabel {
            display: block;
            font-weight: bold;
        }
```

```

        color: #ffb6c1;
        margin-bottom: 6px;
        margin-top: 20px;
    }

input[type="text"], .aspNetTextBox {
    width: 100%;
    padding: 10px;
    border-radius: 6px;
    border: none;
    background-color: #2a2a2a;
    color: white;
    font-size: 14px;
}

input[type="text"]:focus, .aspNetTextBox:focus {
    outline: none;
    box-shadow: 0 0 5px #ff4081;
}

.styled-button {
    margin-top: 30px;
    padding: 12px;
    background-color: #ff4081;
    color: white;
    border: none;
    font-size: 16px;
    font-weight: 600;
    border-radius: 8px;
    cursor: pointer;
    width: 48%;
    transition: background-color 0.3s ease;
}

.styled-button:hover {
    background-color: #e6005c;
}

#btnSave {
    float: left;
}

#btnCancel {
    float: right;
    background-color: #444;
    color: #ff4081;
    border: 1px solid #ff4081;
}

#btnCancel:hover {
    background-color: #ff4081;
    color: white;
    border: none;
}

#<%= lblMessage.ClientID %> {
    margin-top: 20px;
    text-align: center;
    font-weight: 600;
    color: #ff4081;
    display: block;
    clear: both;
}

```

```

</style>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <h2><asp:Label ID="lblTitle" runat="server" Text="Add/Edit Payment"
/></h2>

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

            <asp:Label ID="lblRentalID" runat="server" Text="Rental ID:"
CssClass="aspNetLabel" />
            <asp:TextBox ID="txtRentalID" runat="server" CssClass="aspNetTextBox"
/>

            <asp:Label ID="lblPaymentDate" runat="server" Text="Payment Date:"
CssClass="aspNetLabel" />
            <asp:TextBox ID="txtPaymentDate" runat="server"
CssClass="aspNetTextBox" />

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

            <asp:Label ID="lblPaymentMethod" runat="server" Text="Payment
Method:" CssClass="aspNetLabel" />
            <asp:TextBox ID="txtPaymentMethod" runat="server"
CssClass="aspNetTextBox" />

            <asp:Button ID="btnSave" runat="server" Text="Save" CssClass="styled-
button" OnClick="btnSave_Click" />
            <asp:Button ID="btnCancel" runat="server" Text="Cancel"
PostBackUrl="~/Payments.aspx" CssClass="styled-button" />
        </div>
    </form>
</body>
</html>

```

3.8.2 PaymentForm.aspx.vb

Imports System.Data.SqlClient

Partial Class PaymentForm

Inherits System.Web.UI.Page

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

' Read user input

Dim rentalID As String = txtRentalID.Text.Trim()

Dim paymentDate As String = txtPaymentDate.Text.Trim()

Dim amount As Decimal

Dim paymentMethod As String = txtPaymentMethod.Text.Trim()

' Validate amount

If Not Decimal.TryParse(txtAmount.Text.Trim(), amount) Then

lblMessage.Text = "Invalid amount entered."

Return

End If

' Connection string for Somee

Dim connectionString As String = "Data

Source=movierentalsystem1.mssql.somee.com;Initial Catalog=movierentalsystem1;User

```
ID=zainabtareq_SQLLlogin_1;Password=9n1ha3okxt;TrustServerCertificate=True;NetworkLibrary=DBMSSOCN;"
```

3.8.3 Payments.aspx

```
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title>Movie Payment</title>
  <style>
    body {
      margin: 0;
      font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
      background-color: #000;
      color: #fff;
      position: relative;
      min-height: 100vh;
    }

    body::before {
      content: "";
      position: fixed;
      top: 0; left: 0; right: 0; bottom: 0;
      background: linear-gradient(135deg, #0d0d0d 0%, #1a1a1a 100%);
      z-index: -1;
    }

    .container {
      max-width: 400px;
      margin: 60px auto;
      padding: 30px 40px;
      background-color: #1a1a1a;
      border-radius: 8px;
      box-shadow: 0 0 15px #ff4081;
    }
  </style>
</head>
<body>
  <div class="container">
    <div class="header">
      <h1>Movie Payment</h1>
    </div>
    <div class="form">
      <div class="input">
        <input type="text" value="Movie Name" />
      </div>
      <div class="input">
        <input type="text" value="Payment Amount" />
      </div>
      <div class="input">
        <input type="text" value="Payment Date" />
      </div>
      <div class="input">
        <input type="text" value="Payment Method" />
      </div>
      <div class="input">
        <input type="text" value="Payment Status" />
      </div>
      <div class="input">
        <input type="text" value="Payment Description" />
      </div>
      <div class="input">
        <input type="text" value="Payment Notes" />
      </div>
      <div class="input">
        <input type="text" value="Payment Address" />
      </div>
      <div class="input">
        <input type="text" value="Payment City" />
      </div>
      <div class="input">
        <input type="text" value="Payment State" />
      </div>
      <div class="input">
        <input type="text" value="Payment Zip" />
      </div>
      <div class="input">
        <input type="text" value="Payment Country" />
      </div>
      <div class="input">
        <input type="text" value="Payment Phone" />
      </div>
      <div class="input">
        <input type="text" value="Payment Email" />
      </div>
      <div class="input">
        <input type="text" value="Payment Password" />
      </div>
      <div class="input">
        <input type="text" value="Payment Username" />
      </div>
      <div class="input">
        <input type="text" value="Payment Security" />
      </div>
      <div class="input">
        <input type="text" value="Payment Privacy" />
      </div>
      <div class="input">
        <input type="text" value="Payment Terms" />
      </div>
      <div class="input">
        <input type="text" value="Payment Conditions" />
      </div>
      <div class="input">
        <input type="text" value="Payment Policies" />
      </div>
      <div class="input">
        <input type="text" value="Payment Agreements" />
      </div>
      <div class="input">
        <input type="text" value="Payment Disclaimers" />
      </div>
      <div class="input">
        <input type="text" value="Payment Warnings" />
      </div>
      <div class="input">
        <input type="text" value="Payment Notices" />
      </div>
      <div class="input">
        <input type="text" value="Payment Announcements" />
      </div>
      <div class="input">
        <input type="text" value="Payment Updates" />
      </div>
      <div class="input">
        <input type="text" value="Payment Alerts" />
      </div>
      <div class="input">
        <input type="text" value="Payment Notifications" />
      </div>
      <div class="input">
        <input type="text" value="Payment Reminders" />
      </div>
      <div class="input">
        <input type="text" value="Payment Requests" />
      </div>
      <div class="input">
        <input type="text" value="Payment Offers" />
      </div>
      <div class="input">
        <input type="text" value="Payment Deals" />
      </div>
      <div class="input">
        <input type="text" value="Payment Promotions" />
      </div>
      <div class="input">
        <input type="text" value="Payment Discounts" />
      </div>
      <div class="input">
        <input type="text" value="Payment Rewards" />
      </div>
      <div class="input">
        <input type="text" value="Payment Incentives" />
      </div>
      <div class="input">
        <input type="text" value="Payment Bonuses" />
      </div>
      <div class="input">
        <input type="text" value="Payment Gifts" />
      </div>
      <div class="input">
        <input type="text" value="Payment Prizes" />
      </div>
      <div class="input">
        <input type="text" value="Payment Sweepstakes" />
      </div>
      <div class="input">
        <input type="text" value="Payment Contests" />
      </div>
      <div class="input">
        <input type="text" value="Payment Games" />
      </div>
      <div class="input">
        <input type="text" value="Payment Quizzes" />
      </div>
      <div class="input">
        <input type="text" value="Payment Surveys" />
      </div>
      <div class="input">
        <input type="text" value="Payment Feedback" />
      </div>
      <div class="input">
        <input type="text" value="Payment Reviews" />
      </div>
      <div class="input">
        <input type="text" value="Payment Ratings" />
      </div>
      <div class="input">
        <input type="text" value="Payment Comments" />
      </div>
      <div class="input">
        <input type="text" value="Payment Questions" />
      </div>
      <div class="input">
        <input type="text" value="Payment Answers" />
      </div>
      <div class="input">
        <input type="text" value="Payment Support" />
      </div>
      <div class="input">
        <input type="text" value="Payment Help" />
      </div>
      <div class="input">
        <input type="text" value="Payment FAQ" />
      </div>
      <div class="input">
        <input type="text" value="Payment About" />
      </div>
      <div class="input">
        <input type="text" value="Payment Contact" />
      </div>
      <div class="input">
        <input type="text" value="Payment Privacy Policy" />
      </div>
      <div class="input">
        <input type="text" value="Payment Terms of Service" />
      </div>
      <div class="input">
        <input type="text" value="Payment Return Policy" />
      </div>
      <div class="input">
        <input type="text" value="Payment Shipping Policy" />
      </div>
      <div class="input">
        <input type="text" value="Payment Refund Policy" />
      </div>
      <div class="input">
        <input type="text" value="Payment Warranty" />
      </div>
      <div class="input">
        <input type="text" value="Payment Guarantee" />
      </div>
      <div class="input">
        <input type="text" value="Payment Satisfaction" />
      </div>
      <div class="input">
        <input type="text" value="Payment Promise" />
      </div>
      <div class="input">
        <input type="text" value="Payment Commitment" />
      </div>
      <div class="input">
        <input type="text" value="Payment Dedication" />
      </div>
      <div class="input">
        <input type="text" value="Payment Passion" />
      </div>
      <div class="input">
        <input type="text" value="Payment Love" />
      </div>
      <div class="input">
        <input type="text" value="Payment Care" />
      </div>
      <div class="input">
        <input type="text" value="Payment Attention" />
      </div>
      <div class="input">
        <input type="text" value="Payment Focus" />
      </div>
      <div class="input">
        <input type="text" value="Payment Concentration" />
      </div>
      <div class="input">
        <input type="text" value="Payment Intensity" />
      </div>
      <div class="input">
        <input type="text" value="Payment Energy" />
      </div>
      <div class="input">
        <input type="text" value="Payment Power" />
      </div>
      <div class="input">
        <input type="text" value="Payment Strength" />
      </div>
      <div class="input">
        <input type="text" value="Payment Force" />
      </div>
      <div class="input">
        <input type="text" value="Payment Impact" />
      </div>
      <div class="input">
        <input type="text" value="Payment Influence" />
      </div>
      <div class="input">
        <input type="text" value="Payment Effect" />
      </div>
      <div class="input">
        <input type="text" value="Payment Result" />
      </div>
      <div class="input">
        <input type="text" value="Payment Outcome" />
      </div>
      <div class="input">
        <input type="text" value="Payment Conclusion" />
      </div>
      <div class="input">
        <input type="text" value="Payment End" />
      </div>
      <div class="input">
        <input type="text" value="Payment Close" />
      </div>
      <div class="input">
        <input type="text" value="Payment Exit" />
      </div>
      <div class="input">
        <input type="text" value="Payment Stop" />
      </div>
      <div class="input">
        <input type="text" value="Payment Pause" />
      </div>
      <div class="input">
        <input type="text" value="Payment Resume" />
      </div>
      <div class="input">
        <input type="text" value="Payment Continue" />
      </div>
      <div class="input">
        <input type="text" value="Payment Proceed" />
      </div>
      <div class="input">
        <input type="text" value="Payment Advance" />
      </div>
      <div class="input">
        <input type="text" value="Payment Forward" />
      </div>
      <div class="input">
        <input type="text" value
```

```

h2 {
    text-align: center;
    color: #ff4081;
    font-size: 32px;
    margin-bottom: 30px;
    font-weight: 700;
}

label {
    display: block;
    margin-bottom: 8px;
    font-weight: 600;
    color: #eee;
}

select, input[type="text"], asp\:TextBox, asp\:DropDownList {
    width: 100%;
    padding: 10px 14px;
    margin-bottom: 20px;
    border: 2px solid #ff4081;
    border-radius: 6px;
    background-color: #000;
    color: #fff;
    font-size: 16px;
    box-sizing: border-box;
    transition: border-color 0.3s ease;
}

select:focus, input[type="text"]:focus {
    border-color: #e6005c;
    outline: none;
    background-color: #1a1a1a;
}

asp\:Button, input[type="submit"] {
    background-color: #ff4081;
    border: none;
    color: white;
    cursor: pointer;
    font-weight: 700;
    font-size: 18px;
    padding: 12px 0;
    border-radius: 8px;
    width: 100%;
    transition: background-color 0.3s ease, transform 0.3s ease;
}

asp\:Button:hover, input[type="submit"]:hover {
    background-color: #e6005c;
    transform: scale(1.03);
}

#<%= lblMessage.ClientID %> {
    text-align: center;
    font-weight: 600;
    margin-top: 15px;
    color: #ff4081;
}
</style>
</head>
<body>
    <form id="form1" runat="server">

```

```

<div class="container">
    <h2>Make a Payment</h2>

    <label for="ddlMovies">Select Movie:</label>
    <asp:DropDownList ID="ddlMovies" runat="server" AutoPostBack="true"
OnSelectedIndexChanged="ddlMovies_SelectedIndexChanged" />

    <label for="txtCustomer">Customer Name:</label>
    <asp:TextBox ID="txtCustomer" runat="server" />

    <label for="txtAmount">Amount:</label>
    <asp:TextBox ID="txtAmount" runat="server" ReadOnly="true" />

    <asp:Button ID="btnSubmit" runat="server" Text="Submit Payment"
OnClick="btnSubmit_Click" />

    <asp:Label ID="lblMessage" runat="server" Visible="False" />
</div>
</form>
</body>
</html>

```

3.8.4 Payments.aspx.vb

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

```
Partial Class Payments
```

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

```

    Private connectionString As String = "workstation
id=movierentalsystem1.mssql.somee.com;packet size=4096;user
id=zainabtariq_SQLLogin_1;pwd=9n1ha3okxt;data
source=movierentalsystem1.mssql.somee.com;persist security info=False;initial
catalog=movierentalsystem1;TrustServerCertificate=True"

```

```

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

```

```

        If Not IsPostBack Then
            LoadMovies()
        End If
    End Sub

```

```

    Private Sub LoadMovies()
        Try
            Using conn As New SqlConnection(connectionString)
                Dim query As String = "SELECT Movie_ID, Title FROM Movie"
                Dim cmd As New SqlCommand(query, conn)
                conn.Open()

                ddlMovies.DataSource = cmd.ExecuteReader()
                ddlMovies.DataTextField = "Title"
                ddlMovies.DataValueField = "Movie_ID"
                ddlMovies.DataBind()

                ddlMovies.Items.Insert(0, New ListItem("-- Select Movie --",
"0"))

            End Using
        Catch ex As Exception
            lblMessage.Text = "Error loading movies: " & ex.Message
            lblMessage.ForeColor = System.Drawing.Color.Red
            lblMessage.Visible = True
        End Try
    End Sub

```

```

End Sub

Protected Sub ddlMovies_SelectedIndexChanged(ByVal sender As Object, ByVal e
As EventArgs)
    Dim selectedMovieId As Integer
    If Integer.TryParse(ddlMovies.SelectedValue, selectedMovieId) AndAlso
selectedMovieId <> 0 Then
        Try
            Using conn As New SqlConnection(connectionString)
                Dim query As String = "SELECT Rental_Price FROM Movie WHERE
Movie_ID = @Movie_ID"
                Dim cmd As New SqlCommand(query, conn)
                cmd.Parameters.AddWithValue("@Movie_ID", selectedMovieId)
                conn.Open()

                Dim reader As SqlDataReader = cmd.ExecuteReader()
                If reader.Read() Then
                    txtAmount.Text = reader("Rental_Price").ToString()
                Else
                    txtAmount.Text = ""
                End If
            End Using
        Catch ex As Exception
            lblMessage.Text = "Error retrieving price: " & ex.Message
            lblMessage.ForeColor = System.Drawing.Color.Red
            lblMessage.Visible = True
        End Try
    Else
        txtAmount.Text = ""
    End If
End Sub

Protected Sub btnSubmit_Click(ByVal sender As Object, ByVal e As EventArgs)
    If ddlMovies.SelectedValue = "0" OrElse
String.IsNullOrEmpty(txtCustomer.Text) Then
        lblMessage.Text = "Please select a movie and enter customer name."
        lblMessage.ForeColor = System.Drawing.Color.Red
        lblMessage.Visible = True
        Return
    End If

    Try
        Using conn As New SqlConnection(connectionString)
            Dim query As String = "INSERT INTO Payments (Movie_ID,
Customer_Name, Amount) VALUES (@Movie_ID, @Customer_Name, @Amount)"
            Dim cmd As New SqlCommand(query, conn)
            cmd.Parameters.AddWithValue("@Movie_ID", ddlMovies.SelectedValue)
            cmd.Parameters.AddWithValue("@Customer_Name", txtCustomer.Text)
            cmd.Parameters.AddWithValue("@Amount",
Convert.ToDecimal(txtAmount.Text))
            conn.Open()
            cmd.ExecuteNonQuery()
        End Using

        lblMessage.Text = "Payment submitted successfully!"
        lblMessage.ForeColor = System.Drawing.Color.Green
        lblMessage.Visible = True

        ddlMovies.SelectedIndex = 0
        txtCustomer.Text = ""
        txtAmount.Text = ""
    Catch ex As Exception
        lblMessage.Text = "Error submitting payment: " & ex.Message
    End Try
End Sub

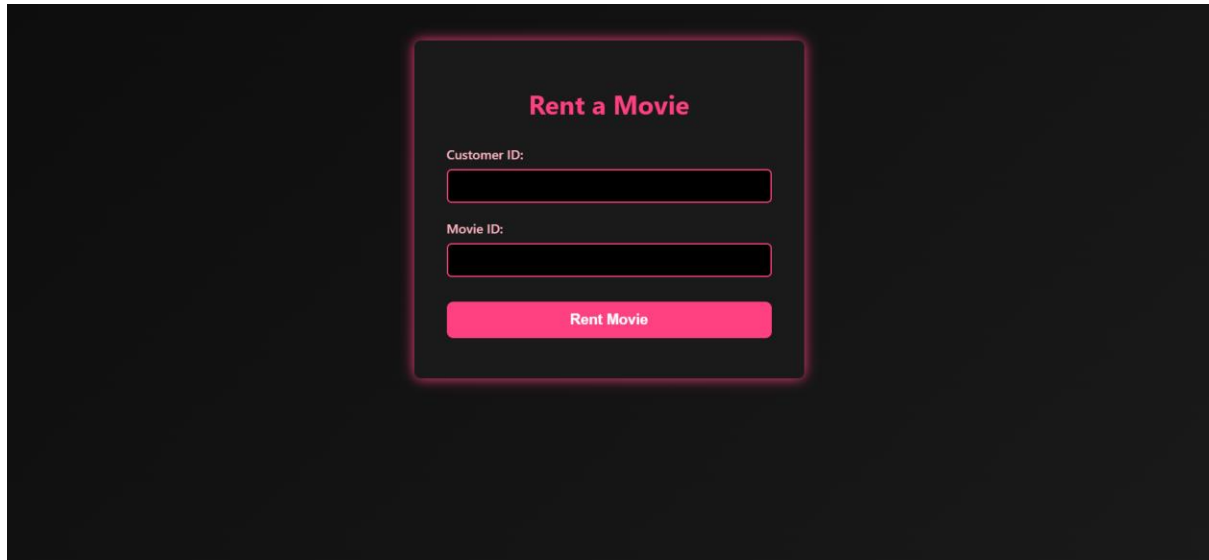
```

```

        lblMessage.ForeColor = System.Drawing.Color.Red
        lblMessage.Visible = True
    End Try
End Sub
End Class

```

3.9 RENTAL



3.9.1 RentalForm.aspx

```

<%@ Page Language="VB" AutoEventWireup="true" CodeFile="RentalForm.aspx.vb"
Inherits="RentalForm" %>

```

```

<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Rental Form</title>
    <style>
        body {
            margin: 0;
            font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
            background-color: #000;
            color: #fff;
            display: flex;
            justify-content: center;
            align-items: flex-start;
            min-height: 100vh;
            padding-top: 50px;
        }

        div {
            background-color: #1a1a1a;
            padding: 40px 40px 50px;
            border-radius: 12px;
            box-shadow: 0 0 20px #ff4081;
            width: 400px;
        }

        h2 {
            color: #ff4081;
            font-weight: 700;
            font-size: 28px;
        }
    </style>
</head>
<body>
    <div>
        <h2>Rent a Movie</h2>
        <div>
            <div>Customer ID:</div>
            <input type="text"/>
        </div>
        <div>
            <div>Movie ID:</div>
            <input type="text"/>
        </div>
        <div>
            <button type="button" value="Rent Movie"/>
        </div>
    </div>
</body>
</html>

```



```

        margin-bottom: 30px;
        text-align: center;
    }

    label, .aspNetLabel {
        display: block;
        font-weight: bold;
        color: #ffb6c1;
        margin-bottom: 6px;
        margin-top: 20px;
    }

    input[type="text"], .aspNetTextBox {
        width: 100%;
        padding: 10px;
        border-radius: 6px;
        border: none;
        background-color: #2a2a2a;
        color: white;
        font-size: 14px;
    }

    input[type="text"]:focus, .aspNetTextBox:focus {
        outline: none;
        box-shadow: 0 0 5px #ff4081;
    }

    .styled-button {
        margin-top: 30px;
        padding: 12px;
        background-color: #ff4081;
        color: white;
        border: none;
        font-size: 16px;
        font-weight: 600;
        border-radius: 8px;
        cursor: pointer;
        width: 48%;
        transition: background-color 0.3s ease;
    }

    .styled-button:hover {
        background-color: #e6005c;
    }

    #btnSave {
        float: left;
    }

    #btnCancel {
        float: right;
        background-color: #444;
        color: #ff4081;
        border: 1px solid #ff4081;
    }

    #btnCancel:hover {
        background-color: #ff4081;
        color: white;
        border: none;
    }

    #<%= lblMessage.ClientID %> {

```

```

        margin-top: 20px;
        text-align: center;
        font-weight: 600;
        color: #ff4081;
        display: block;
        clear: both;
    }
</style>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <h2><asp:Label ID="lblTitle" runat="server" Text="Add/Edit Rental"
/></h2>

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

            <asp:Label ID="lblCustomer" runat="server" Text="Customer ID:"
CssClass="aspNetLabel" />
            <asp:TextBox ID="txtCustomerID" runat="server"
CssClass="aspNetTextBox" />

            <asp:Label ID="lblMovie" runat="server" Text="Movie ID:"
CssClass="aspNetLabel" />
            <asp:TextBox ID="txtMovieID" runat="server" CssClass="aspNetTextBox"
/>

            <asp:Label ID="lblRentalDate" runat="server" Text="Rental Date (YYYY-
MM-DD):" CssClass="aspNetLabel" />
            <asp:TextBox ID="txtRentalDate" runat="server"
CssClass="aspNetTextBox" />

            <asp:Label ID="lblReturnDate" runat="server" Text="Return Date (YYYY-
MM-DD):" CssClass="aspNetLabel" />
            <asp:TextBox ID="txtReturnDate" runat="server"
CssClass="aspNetTextBox" />

            <asp:Button ID="btnSave" runat="server" Text="Save" CssClass="styled-
button" OnClick="btnSave_Click" />
            <asp:Button ID="btnCancel" runat="server" Text="Cancel"
PostBackUrl="~/Rentals.aspx" CssClass="styled-button" />
        </div>
    </form>
</body>
</html>

```

3.9.2 RentalForm.aspx.vb

```

Imports System.Data
Imports System.Data.SqlClient

Partial Class RentalForm
    Inherits System.Web.UI.Page

    ' Adjust this connection string according to your SQL Server setup
    Dim con As New SqlConnection("Data Source=.\SQLEXPRESS;Initial
Catalog=MRSDb;Integrated Security=True")

    Protected Sub btnSave_Click(sender As Object, e As EventArgs)
        Try

```

```

        Dim customerId As Integer =
Convert.ToInt32(txtCustomerId.Text.Trim())
        Dim movieId As Integer = Convert.ToInt32(txtMovieID.Text.Trim())
        Dim rentalDate As Date = Date.Parse(txtRentalDate.Text.Trim())
        Dim returnDate As Date = Date.Parse(txtReturnDate.Text.Trim())

        Dim query As String = "INSERT INTO Rentals (CustomerID, MovieID,
RentalDate, ReturnDate) VALUES (@CustomerID, @MovieID, @RentalDate, @ReturnDate)"

        Using cmd As New SqlCommand(query, con)
            cmd.Parameters.AddWithValue("@CustomerID", customerId)
            cmd.Parameters.AddWithValue("@MovieID", movieId)
            cmd.Parameters.AddWithValue("@RentalDate", rentalDate)
            cmd.Parameters.AddWithValue("@ReturnDate", returnDate)

            con.Open()
            cmd.ExecuteNonQuery()
            con.Close()

            lblMessage.ForeColor = Drawing.Color.Green
            lblMessage.Text = "Rental saved successfully!"
        End Using

        Catch ex As Exception
            lblMessage.ForeColor = Drawing.Color.Red
            lblMessage.Text = "Error: " & ex.Message
        Finally
            If con.State = ConnectionState.Open Then
                con.Close()
            End If
        End Try
    End Sub
End Class

```

3.9.3 Rentals.aspx

```

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

<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Rent a Movie</title>
    <style>
        body {
            margin: 0;
            font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
            background-color: #000;
            color: #fff;
            position: relative;
            min-height: 100vh;
        }

        body::before {
            content: "";
            position: fixed;
            top: 0; left: 0; right: 0; bottom: 0;
            background: linear-gradient(135deg, #0d0d0d 0%, #1a1a1a 100%);
            z-index: -1;
        }

        .container {

```

```

        max-width: 400px;
        margin: 60px auto;
        padding: 30px 40px;
        background-color: #1a1a1a;
        border-radius: 8px;
        box-shadow: 0 0 15px #ff4081;
    }

    h2 {
        text-align: center;
        color: #ff4081;
        font-size: 32px;
        margin-bottom: 30px;
        font-weight: 700;
    }

    label, .aspNetLabel {
        display: block;
        margin-top: 20px;
        margin-bottom: 8px;
        font-weight: 600;
        color: #ffb6c1;
    }

    input[type="text"], .aspNetTextBox, asp\:TextBox {
        width: 100%;
        padding: 10px 14px;
        border: 2px solid #ff4081;
        border-radius: 6px;
        background-color: #000;
        color: #fff;
        font-size: 16px;
        box-sizing: border-box;
        transition: border-color 0.3s ease;
    }

    input[type="text"]:focus, .aspNetTextBox:focus {
        border-color: #e6005c;
        outline: none;
        background-color: #1a1a1a;
    }

    .styled-button, asp\:Button {
        margin-top: 30px;
        padding: 12px 0;
        background-color: #ff4081;
        color: white;
        border: none;
        font-size: 18px;
        font-weight: 700;
        border-radius: 8px;
        cursor: pointer;
        width: 100%;
        transition: background-color 0.3s ease, transform 0.3s ease;
    }

    .styled-button:hover, asp\:Button:hover {
        background-color: #e6005c;
        transform: scale(1.03);
    }

    #<%= lblResult.ClientID %> {
        display: block;
    }

```

```

        text-align: center;
        margin-top: 20px;
        font-weight: 600;
        color: #ff4081;
    }
</style>
</head>
<body>
    <form id="form1" runat="server">
        <div class="container">
            <h2>Rent a Movie</h2>

            <asp:Label ID="lblCustomerId" runat="server" Text="Customer ID:"
CssClass="aspNetLabel" />
            <asp:TextBox ID="txtCustomerId" runat="server"
CssClass="aspNetTextBox" />

            <asp:Label ID="lblMovieId" runat="server" Text="Movie ID:"
CssClass="aspNetLabel" />
            <asp:TextBox ID="txtMovieId" runat="server" CssClass="aspNetTextBox"
/>

            <asp:Button ID="btnRent" runat="server" Text="Rent Movie"
CssClass="styled-button" OnClick="btnRent_Click" />

            <asp:Label ID="lblResult" runat="server" />
        </div>
    </form>
</body>
</html>

```

3.9.4 Rentals.aspx.vb

Imports System.Data.SqlClient

Partial Class Rentals

Inherits System.Web.UI.Page

```

Protected Sub btnRent_Click(sender As Object, e As EventArgs)
    Dim customerId As String = txtCustomerId.Text.Trim()
    Dim movieId As String = txtMovieId.Text.Trim()

    If customerId = "" OrElse movieId = "" Then
        lblResult.Text = "Please enter both Customer ID and Movie ID."
        Return
    End If

    Dim connectionString As String =
ConfigurationManager.ConnectionStrings("MovieRentalDB").ConnectionString
    Dim query As String = "INSERT INTO rental (Customer_ID, Movie_ID,
Rental_Date) VALUES (@CustomerId, @MovieId, @RentDate)"

    Try
        Using con As New SqlConnection(connectionString)
            Using cmd As New SqlCommand(query, con)
                cmd.Parameters.AddWithValue("@CustomerId", customerId)
                cmd.Parameters.AddWithValue("@MovieId", movieId)
                cmd.Parameters.AddWithValue("@RentDate", DateTime.Now)

                con.Open()
                cmd.ExecuteNonQuery()
            End Using
        End Using
    Catch ex As Exception
        lblResult.Text = ex.Message
    End Try
End Sub

```

```

        con.Close()

        lblResult.ForeColor = Drawing.Color.Green
        lblResult.Text = "Movie rented successfully!"
    End Using
End Using
Catch ex As Exception
    lblResult.ForeColor = Drawing.Color.Red
    lblResult.Text = "Error: " & ex.Message
End Try
End Sub
End Class

```

3.10 STAFF

Staff Details			
Staff ID	Name	Role	Contact Number
1	Alice Johnson	Manager	555-0101
2	Bob Smith	Assistant Manager	555-0102
3	Charlie Brown	Customer Service	555-0103
4	Diana Wilson	Clerk	555-0104
5	Ethan Davis	Sales Representative	555-0105
6	Fiona Lee	Inventory Manager	555-0106
7	George Martin	Technician	555-0107
8	Hannah Clark	Cashier	555-0108
9	Ian Harris	Security	555-0109
10	Jackie Roberts	Cleaner	555-0110
11	Karen Lewis	Maintenance	555-0111

3.10.1 Staff.aspx

```

<%@ Page Language="VB" AutoEventWireup="true" CodeFile="Staff.aspx.vb"
Inherits="Staff" %>

<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Staff Management</title>
    <style>
        body {
            margin: 0;
            font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
            background-color: #000;
            color: #fff;
            position: relative;
            min-height: 100vh;
        }

        body::before {
            content: "";
            position: fixed;
            top: 0; left: 0; right: 0; bottom: 0;
            background: linear-gradient(135deg, #0d0d0d 0%, #1a1a1a 100%);
            z-index: -1;
        }
    </style>
</head>
<body>
    <div>
        <table>
            <tr>
                <th data-cs="4" data-kind="parent">Staff Details
            </th>
            </tr>
            <tr>
                <th>Staff ID
            </th>
            <th>Name
            </th>
            <th>Role
            </th>
            <th>Contact Number
            </th>
        </tr>
            <tr>
                <td>1
            </td>
            <td>Alice Johnson
            </td>
            <td>Manager
            </td>
            <td>555-0101
            </td>
        </tr>
            <tr>
                <td>2
            </td>
            <td>Bob Smith
            </td>
            <td>Assistant Manager
            </td>
            <td>555-0102
            </td>
        </tr>
            <tr>
                <td>3
            </td>
            <td>Charlie Brown
            </td>
            <td>Customer Service
            </td>
            <td>555-0103
            </td>
        </tr>
            <tr>
                <td>4
            </td>
            <td>Diana Wilson
            </td>
            <td>Clerk
            </td>
            <td>555-0104
            </td>
        </tr>
            <tr>
                <td>5
            </td>
            <td>Ethan Davis
            </td>
            <td>Sales Representative
            </td>
            <td>555-0105
            </td>
        </tr>
            <tr>
                <td>6
            </td>
            <td>Fiona Lee
            </td>
            <td>Inventory Manager
            </td>
            <td>555-0106
            </td>
        </tr>
            <tr>
                <td>7
            </td>
            <td>George Martin
            </td>
            <td>Technician
            </td>
            <td>555-0107
            </td>
        </tr>
            <tr>
                <td>8
            </td>
            <td>Hannah Clark
            </td>
            <td>Cashier
            </td>
            <td>555-0108
            </td>
        </tr>
            <tr>
                <td>9
            </td>
            <td>Ian Harris
            </td>
            <td>Security
            </td>
            <td>555-0109
            </td>
        </tr>
            <tr>
                <td>10
            </td>
            <td>Jackie Roberts
            </td>
            <td>Cleaner
            </td>
            <td>555-0110
            </td>
        </tr>
            <tr>
                <td>11
            </td>
            <td>Karen Lewis
            </td>
            <td>Maintenance
            </td>
            <td>555-0111
            </td>
        </tr>
        </table>
    </div>
</body>
</html>

```

```

        .staff-list {
            width: 80%;
            max-width: 900px;
            margin: 40px auto;
            padding: 30px 40px;
            background-color: #1a1a1a;
            border-radius: 10px;
            box-shadow: 0 0 15px #ff4081;
        }

        .staff-list h2 {
            color: #ff4081;
            font-weight: 700;
            font-size: 32px;
            margin-bottom: 25px;
            text-align: center;
        }

        .staff-list table {
            width: 100%;
            border-collapse: collapse;
            color: #fff;
        }

        .staff-list th, .staff-list td {
            border: 1px solid #ff4081;
            padding: 12px 15px;
            text-align: left;
        }

        .staff-list th {
            background-color: #ff4081;
            color: #000;
            font-weight: 700;
        }

        .staff-list tr:nth-child(even) {
            background-color: #2a2a2a;
        }

        .staff-list tr:hover {
            background-color: #e6005c;
            color: #fff;
            transition: background-color 0.3s ease;
        }
    </style>
</head>
<body>
    <form id="form1" runat="server">
        <div class="staff-list">
            <h2>Staff Details</h2>
            <asp:GridView ID="gvStaff" runat="server" AutoGenerateColumns="True"
        />
        </div>
    </form>
</body>
</html>

```

3.10.2 Staff.aspx.vb

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

```
Public Class Staff
    Inherits System.Web.UI.Page

    Private conStr As String =
        "Server=movierentalsystem1.mssql.somee.com;Database=movierentalsystem1;User
        Id=zainabtariq_SQLLogin_1;Password=9n1ha3okxt;"

    Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load
        If Not IsPostBack Then
            LoadStaff()
        End If
    End Sub

    Private Sub LoadStaff()

        Using con As New SqlConnection(conStr)
            Try

                con.Open()
                Dim query As String = "SELECT * FROM Staff"
                Using cmd As New SqlCommand(query, con)

                    Using reader As SqlDataReader = cmd.ExecuteReader()
                        gvStaff.DataSource = reader
                        gvStaff.DataBind()
                    End Using
                End Using
            Catch ex As SqlException
                Response.Write("Database Error: " & ex.Message)
            Catch ex As Exception
                Response.Write("Error: " & ex.Message)
            Finally
                con.Close()
            End Try
        End Using
    End Sub
End Class
```

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



```
div {
    background-color: #1a1a1a;
    padding: 40px 40px 50px;
    border-radius: 12px;
    box-shadow: 0 0 20px #ff4081;
    width: 400px;
}

h2 {
    color: #ff4081;
    font-weight: 700;
    font-size: 28px;
    margin-bottom: 30px;
    text-align: center;
}

label, .aspNetLabel {
    display: block;
    font-weight: bold;
    color: #ffb6c1;
    margin-bottom: 6px;
    margin-top: 20px;
}

input[type="text"], .aspNetTextBox {
    width: 100%;
    padding: 10px;
    border-radius: 6px;
    border: none;
    background-color: #2a2a2a;
    color: white;
    font-size: 14px;
}

input[type="text"]:focus, .aspNetTextBox:focus {
    outline: none;
    box-shadow: 0 0 5px #ff4081;
}

.styled-button {
    margin-top: 30px;
    padding: 12px;
    background-color: #ff4081;
    color: white;
    border: none;
    font-size: 16px;
    font-weight: 600;
    border-radius: 8px;
    cursor: pointer;
    width: 48%;
    transition: background-color 0.3s ease;
}

.styled-button:hover {
    background-color: #e6005c;
}

#btnSave {
    float: left;
}

#btnCancel {
    float: right;
}
```

```

        background-color: #444;
        color: #ff4081;
        border: 1px solid #ff4081;
    }

    #btnCancel:hover {
        background-color: #ff4081;
        color: white;
        border: none;
    }

    #<%= lblMessage.ClientID %> {
        margin-top: 20px;
        text-align: center;
        font-weight: 600;
        color: #ff4081;
        display: block;
        clear: both;
    }
</style>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <h2><asp:Label ID="lblTitle" runat="server" Text="Add/Edit Staff"
/></h2>

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

            <asp:Label ID="lblName" runat="server" Text="Name:"
CssClass="aspNetLabel" />
            <asp:TextBox ID="txtName" runat="server" CssClass="aspNetTextBox" />

            <asp:Label ID="lblRole" runat="server" Text="Role:"
CssClass="aspNetLabel" />
            <asp:TextBox ID="txtRole" runat="server" CssClass="aspNetTextBox" />

            <asp:Label ID="lblContactNumber" runat="server" Text="Contact
Number:" CssClass="aspNetLabel" />
            <asp:TextBox ID="txtContactNumber" runat="server"
CssClass="aspNetTextBox" />

            <asp:Button ID="btnSave" runat="server" Text="Save" CssClass="styled-
button" OnClick="btnSave_Click" />
            <asp:Button ID="btnCancel" runat="server" Text="Cancel"
PostBackUrl="~/Staff.aspx" CssClass="styled-button" />
        </div>
    </form>
</body>
</html>

```

3.10.4 StaffForm.aspx.vb

```

Imports System.Data
Imports System.Data.SqlClient

```

```

Partial Class StaffForm
    Inherits System.Web.UI.Page

```

```

    Dim con As New SqlConnection("Server=localhost;Database=MRSDB;Integrated
Security=True")

```

```

Protected Sub btnSave_Click(sender As Object, e As EventArgs)
    Try

        Dim name As String = txtName.Text.Trim()
        Dim role As String = txtRole.Text.Trim()
        Dim contactNumber As String = txtContactNumber.Text.Trim()

        If name = "" OrElse role = "" OrElse contactNumber = "" Then
            lblMessage.Text = "Please fill in all fields."
            Return
        End If
        Dim cmd As New SqlCommand("INSERT INTO Staff (Name, Role,
ContactNumber) VALUES (@Name, @Role, @ContactNumber)", con)
        cmd.Parameters.AddWithValue("@Name", name)
        cmd.Parameters.AddWithValue("@Role", role)
        cmd.Parameters.AddWithValue("@ContactNumber", contactNumber)
        con.Open()
        cmd.ExecuteNonQuery()
        con.Close()

        lblMessage.Text = "Staff added successfully!"
        lblMessage.ForeColor = System.Drawing.Color.Green

    Catch ex As Exception
        lblMessage.Text = "Error: " & ex.Message
        lblMessage.ForeColor = System.Drawing.Color.Red
    Finally
        '
        If con.State = ConnectionState.Open Then
            con.Close()
        End If
    End Try
End Sub
End Class

```

3.11 ERROR MESSAGE

3.11.1 Error.aspx

```

<%@ Page Language="VB" AutoEventWireup="true" CodeFile="Error.aspx.vb"
Inherits="_Error" %>

<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Error</title>
</head>
<body>
    <form id="form1" runat="server">
        <div style="width: 80%; margin: auto; padding-top: 50px; text-align:
center;">
            <h2>Oops! Something went wrong.</h2>
            <p><strong>Error Message:</strong> <asp:Label ID="lblErrorMessage"
runat="server" ForeColor="Red"></asp:Label></p>
            <p><a href="Dashboard.aspx">Return to Dashboard</a></p>
        </div>
    </form>
</body>
</html>

```

3.11.2 Error.aspx.vb

Imports System

Partial Class _Error

Inherits System.Web.UI.Page

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

If Not IsPostBack Then

' Capture the error message

If Request.QueryString("error") IsNot Nothing Then

lblErrorMessage.Text = "Error: " & Request.QueryString("error")

Else

lblErrorMessage.Text = "An unknown error occurred."

End If

End If

End Sub

End Class