

## Project Name: Railway Reservation System

### Data Definition Language of the Database:

```
CREATE DATABASE Railway_Reservation_System
CREATE TABLE Login(
    Username varchar (30) NOT NULL,
    Password varchar (30) NOT NULL
);
CREATE TABLE TrainList (
    TrainID INT Primary Key,
    TrainCode varchar(100) NOT NULL,
    TrainName varchar(50) NOT NULL,
    RouteFrom varchar(50) NOT NULL,
    RouteTo varchar(30) NOT NULL,
    DepartureTime time NOT NULL,
    ArrivalTime time NOT NULL,
    TrainType varchar(50) NOT NULL,
    TotalSeats numeric (8,2) NOT NULL,
    TicketFare numeric (8,2) NOT NULL,
);
CREATE TABLE Schedule (
    ScheduleID INT Primary Key,
    ScheduleCode varchar(100) NOT NULL,
    TrainID INT NOT NULL,
    StationName varchar(30),
    ScheduleType varchar(20) NOT NULL,
    DepartureTime time NOT NULL,
    ArrivalTime time NOT NULL,
    TrainType varchar(20) NOT NULL,
    Foreign Key (TrainID) references TrainList,
);
CREATE TABLE Passenger (
    PNRID INT Primary Key,
    UserName varchar(50) NOT NULL,
    FirstName varchar(50) NOT NULL,
    LastName varchar(50) NOT NULL,
    ContactNumber varchar(20) NOT NULL,
    Gender varchar(30) NOT NULL,
    DoB varchar(30) NOT NULL,
    Email varchar(50) NOT NULL,
    Password varchar(50) NOT NULL,
    Picture image,
    Address varchar(250) NOT NULL,
    PostCode INT NOT NULL,
);
CREATE TABLE Reservation (
    ResID INT Primary Key,
    PNRID INT NOT NULL,
    TrainID INT NOT NULL,
    SourceStation varchar(100) NOT NULL,
    DestinationStation varchar(100) NOT NULL,
    TravelDate varchar(30) NOT NULL,
    ScheduleID INT NOT NULL,
    Foreign Key (ScheduleID) references Schedule,
    Foreign Key (TrainID) references TrainList,
    Foreign Key (PNRID) references Passenger
);
CREATE TABLE Payments (
    PaymentID varchar(30) Primary Key,
    ResID INT NOT NULL,
    PNRID INT NOT NULL,
    Amount numeric(8, 2) NOT NULL,
    PaymentMethod varchar(50) NOT NULL,
    FOREIGN KEY (ResID) REFERENCES Reservation,
    FOREIGN KEY (PNRID) REFERENCES Passenger
);
```

### Data Manipulation Language of the Database:

```
INSERT INTO TrainList (TrainID, TrainCode, TrainName, RouteFrom, RouteTo, DepartureTime,
ArrivalTime, TrainType, TotalSeats, TicketFare)
```

VALUES

```
(101, 'EKSP123', 'Suborno Express', 'Dhaka', 'Chattogram', '07:00:00', '13:00:00',
'Intercity', 800, 550.00),
(102, 'EKSP456', 'Sundarban Express', 'Dhaka', 'Khulna', '08:30:00', '17:45:00',
'Intercity', 900, 600.00),
(103, 'EKSP789', 'Parabat Express', 'Sylhet', 'Dhaka', '06:40:00', '13:30:00',
'Intercity', 750, 500.00),
(104, 'EKSP101', 'Rangpur Express', 'Dhaka', 'Rangpur', '09:00:00', '18:30:00',
'Intercity', 850, 700.00);
```

```
INSERT INTO Schedule (ScheduleID, ScheduleCode, TrainID, StationName, ScheduleType,
DepartureTime, ArrivalTime, TrainType)
```

VALUES

```
(201, 'SCHD001', 101, 'Dhaka', 'Daily', '07:00:00', '07:00:00', 'Intercity'),
(202, 'SCHD002', 103, 'Narsingdi', 'Daily', '08:30:00', '08:35:00', 'Intercity'),
(203, 'SCHD003', 102, 'Brahmanbaria', 'Daily', '10:00:00', '10:05:00', 'Intercity'),
(204, 'SCHD004', 101, 'Feni', 'Daily', '12:00:00', '12:05:00', 'Intercity'),
(205, 'SCHD005', 104, 'Chattogram', 'Daily', '13:00:00', '13:00:00', 'Intercity');
```

```
INSERT INTO Passenger (PNRID, UserName, FirstName, LastName, ContactNumber, Gender, DoB,
Email, Password, Address, PostCode)
```

VALUES

```
(301, 'rajib123', 'Rajib', 'Hasan', '01711234567', 'Male', '1995-05-10',
'rajib.hasan@gmail.com', 'pass123', 'Mirpur, Dhaka', 1216),
(302, 'tahsin321', 'Tahsin', 'Rahman', '01987654321', 'Male', '1990-09-22',
'tahsin.rahman@yahoo.com', 'secure456', 'GEC, Chattogram', 4000),
(303, 'afrin789', 'Afrin', 'Jahan', '01812340987', 'Female', '1998-02-14',
'afrin.jahan@outlook.com', 'afrin321', 'Banani, Dhaka', 1213),
(304, 'mehedi456', 'Mehedi', 'Kamal', '01655667788', 'Male', '1988-11-30',
'mehedi.kamal@hotmail.com', 'mehpass987', 'Khulna Sadar, Khulna', 9100);
```

```
INSERT INTO Reservation (ResID, PNRID, TrainID, SourceStation, DestinationStation,
TravelDate, ScheduleID)
```

VALUES

```
(401, 301, 101, 'Dhaka', 'Chattogram', '2025-03-15', 201),
(402, 302, 101, 'Narsingdi', 'Chattogram', '2025-03-16', 202),
(403, 303, 103, 'Sylhet', 'Dhaka', '2025-04-10', 203),
(404, 304, 102, 'Dhaka', 'Khulna', '2025-04-12', 204);
```

```
INSERT INTO Payments (PaymentID, ResID, PNRID, Amount, PaymentMethod)
```

VALUES

```
('BK202501', 401, 301, 550.00, 'bKash'),
('NG202502', 402, 302, 600.00, 'Nagad'),
('RK202503', 403, 303, 500.00, 'Rocket'),
('CC202504', 404, 304, 700.00, 'Credit Card');
```

## Table Diagrams:

### Trains Table:

Riduan-Aziz\SQLEXP...em - dbo.TrainList ⇄ × Railway_Reservati...DUAN-AZIZ\pc (55))*										
	TrainID	TrainCode	TrainName	RouteFrom	RouteTo	DepartureTime	ArrivalTime	TrainType	TotalSeats	TicketFare
▶	101	EKSP123	Suborno Express	Dhaka	Chattogram	07:00:00	13:00:00	Intercity	800.00	550.00
	102	EKSP456	Sundarban Expr...	Dhaka	Khulna	08:30:00	17:45:00	Intercity	900.00	600.00
	103	EKSP789	Parabat Express	Sylhet	Dhaka	06:40:00	13:30:00	Intercity	750.00	500.00
	104	EKSP101	Rangpur Express	Dhaka	Rangpur	09:00:00	18:30:00	Intercity	850.00	700.00
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

### Passengers Table:

Riduan-Aziz\SQLEXP...m - dbo.Passenger ⇄ × Railway_Reservati...DUAN-AZIZ\pc (55))*												
	PNRID	UserName	FirstName	LastName	ContactNumber	Gender	DoB	Email	Password	Picture	Address	PostCode
▶	301	rajib123	Rajib	Hasan	01711234567	Male	1995-05-10	rajib.hasan@g...	pass123	NULL	Mirpur, Dhaka	1216
	302	tahsin321	Tahsin	Rahman	01987654321	Male	1990-09-22	tahsin.rahman...	secure456	NULL	GEC, Chattogram	4000
	303	afirin789	Afrin	Jahan	01812340987	Female	1998-02-14	afirin.jahan@ou...	afirin321	NULL	Banani, Dhaka	1213
	304	mehedi456	Mehedi	Kamal	01655667788	Male	1988-11-30	mehedi.kamal...	mehpass987	NULL	Khulna Sadar, K...	9100
	305	as					17-02-2025		12	<Binary data>		0
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

### Schedules Table:

Riduan-Aziz\SQLEXP...tem - dbo.Schedule ⇄ × Railway_Reservati...DUAN-AZIZ\pc (55))*								
	ScheduleID	ScheduleCode	TrainID	StationName	ScheduleType	DepartureTime	ArrivalTime	TrainType
▶	201	SCHD001	101	Dhaka	Daily	07:00:00	07:00:00	Intercity
	202	SCHD002	103	Narsingdi	Daily	08:30:00	08:35:00	Intercity
	203	SCHD003	102	Brahmanbaria	Daily	10:00:00	10:05:00	Intercity
	204	SCHD004	101	Feni	Daily	12:00:00	12:05:00	Intercity
	205	SCHD005	104	Chattogram	Daily	13:00:00	13:00:00	Intercity
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

### Reservations Table:

Riduan-Aziz\SQLEXP... - dbo.Reservation ⇄ × Riduan-Aziz\SQLEXP...em - dbo.Payments Railway_Reservati...DUAN-AZIZ\pc (55))*							
	ResID	PNRID	TrainID	SourceStation	DestinationSta...	TravelDate	ScheduleID
✍	401	301	101	Dhaka	Chattogram	2025-03-15	201
	402	302	101	Narsingdi	Chattogram	2025-03-16	202
	403	303	103	Sylhet	Dhaka	2025-04-10	203
	404	304	102	Dhaka	Khulna	2025-04-12	204
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

### Payments Table:

Riduan-Aziz\SQLEXP...em - dbo.Payments ⇄ × Railway_Reservati...DUAN-AZIZ\pc (55))*					
	PaymentID	ResID	PNRID	Amount	PaymentMeth...
▶	BK202501	401	301	550.00	bKash
	CC202504	404	304	700.00	Credit Card
	NG202502	402	302	600.00	Nagad
	RK202503	403	303	500.00	Rocket
*	NULL	NULL	NULL	NULL	NULL

Front-end Interfaces:

Login

Welcome

Railway Reservatoin System



Login to your account by entering your user name and password

User Name

Password

Login


Forget Password?

Don't have an account?

Register

Register

Railway Reservatoin System



Register

Passenger ID 305

User Name

Date of Birth

Post Code

Password

Gender

First Name

Email

Last Name

Address

Contact Number

Operations

Insert

Insert Picture

Main

Welcome

Railway Reservatoin System



Trains

Passerngers


Travel

Reservation

Payment

Passenger

Railway Reservatoin System



Paasengers

Passenger ID

User Name

Date of Birth

Post Code

Password

Gender

First Name

Email

Last Name

Address

Contact Number

Operations

Insert

Delete






Update


Show

Search


Insert Picture

Passenger List

PHRID	UserName	FirstName	LastName	ContactNu	Gender	DoB	Email	Password	Picture	Address	PostCode
301	rajb123	Rajb	Hasan	0171123...	Male	1995-05...	rajb.has...	pass123		Mipur, ...	1216
302	tahsin321	Tahsin	Rahman	0198765...	Male	1990-09...	tahsin.ra...	secure456		GEC, Ch...	4000
303	afin789	Afin	Jahan	0181234...	Female	1998-02...	afin.jaha...	afin321		Banani, ...	1213
304	mehedi456	Mehedi	Kamal	0155566...	Male	1988-11...	mehedi.k...	mehpass...		Khuha ...	9100
305	as					17-02-20...		12			0


Trains

# Railway Reservatoin System



## Trains

Train Informations

Train ID

Train Code

Train Name

From

To

Train Type

Total Seats

Departure Time

Arrival Time

Ticket Fare

Operations

Insert

Delete

Update


Show

Search

### Trains List

[illegible]

**Railway Reservation System**



### Reservation

Schedule Informations		
Reservation ID	<input type="text"/>	Travel Date <input type="text" value="17-02-2025"/>
Passenger ID	<input type="text"/>	
Train ID	<input type="text"/>	Schedule ID <input type="text"/>
Source Station	<input type="text"/>	
Dest.N Station	<input type="text"/>	

Operations

<input type="button" value="Insert"/>	<input type="button" value="Delete"/>	<input type="button" value="Update"/>	<input type="button" value="Show"/>	<input type="button" value="Search"/>
---------------------------------------	---------------------------------------	---------------------------------------	-------------------------------------	---------------------------------------

### Reservation List

Payment

Railway Reservation System



Payments

Schedule Informations

Payment ID

Reservation ID

Passenger ID

Amount

Payment Method

Operations

Insert

Delete

Update

Show

Search

Payment List

### Back-end C# Programs:

#### Login:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Data.SqlClient;
using System.Drawing;
using System.Linq;
using System.Security.Cryptography;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using static System.Windows.Forms.VisualStyles.VisualStyleElement;
namespace Railway_Reservation_System
{
    public partial class Login : Form
    {
        public Login()
        {
            InitializeComponent();
        }
        SqlConnection conn = new SqlConnection(@"Data Source=RIDUAN-
        AZIZ\SQLEXPRESS;Initial Catalog=Railway_Reservation_System;Integrated Security=True");
        private void Login_Load(object sender, EventArgs e)
        {
        }
        private void LoginBTN_Click(object sender, EventArgs e)
        {
            try
            {
                conn.Open();
                string query = "SELECT COUNT(*) FROM Passenger WHERE Username = @username
                AND Password = @password";
                using (SqlCommand cmd = new SqlCommand(query, conn))
                {
                    cmd.Parameters.AddWithValue("@username", UserTB.Text);
                    cmd.Parameters.AddWithValue("@password", PassTB.Text);
                    int userExists = (int)cmd.ExecuteScalar();
                    if (userExists > 0)
                    {
                        Main form1 = new Main();
                        form1.Show();
                    }
                    else
                    {
                        MessageBox.Show("Please enter correct Username and Password",
                        "Alert", MessageBoxButtons.OK, MessageBoxIcon.Error);
                    }
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show("Error: " + ex.Message, "Exception",
                MessageBoxButtons.OK, MessageBoxIcon.Error);
            }
            conn.Close();
        }
        private void RegBTN_Click(object sender, EventArgs e)
        {
            Register register = new Register();
            register.Show();
        }
    }
}
```

```

Register:
using control;
using Microsoft.IdentityModel.Tokens;
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Data.SqlClient;
using System.Drawing;
using System.IO;
using System.Linq;
using System.Runtime.ConstrainedExecution;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using static System.Windows.Forms.VisualStyles.VisualStyleElement;
namespace Railway_Reservation_System
{
    public partial class Register : Form
    {
        public Register()
        {
            InitializeComponent();

            SqlConnection conn = new SqlConnection(@"Data Source=RIDUAN-
AZIZ\SQLEXPRESS;Initial Catalog=Railway_Reservation_System;Integrated Security=True");
            DataTable dt = new DataTable();
            private void Register_Load(object sender, EventArgs e)
            {
                SqlDataAdapter adapter = new SqlDataAdapter("Select isnull(max(cast(PNRID as
int)),0)+1 from Passenger", conn);
                adapter.Fill(dt);
                RTB1.Text = dt.Rows[0][0].ToString();
            }
            private void RegInsBTN_Click(object sender, EventArgs e)
            {
                try
                {
                    conn.Open();
                    SqlCommand cmd = new SqlCommand("INSERT INTO
Passenger(PNRID,UserName,Password,
FirstName,LastName,ContactNumber,DoB,Gender,Email,Address,PostCode,Picture) Values ('" +
RTB1.Text + "','" + PTB1.Text + "','" + PTB2.Text + "','" + PTB3.Text + "','" +
PTB4.Text + "','" + PTB5.Text + "','" + this.DTP1.Text + "','" + RCB1.Text + "','" +
PTB8.Text + "','" + PTB9.Text + "','" + PTB10.Text + "','" + RPB1.Image + "')", conn);
                    cmd.Parameters.AddWithValue("@Picture", getPhoto());
                    cmd.ExecuteNonQuery();
                    MessageBox.Show("Registration Completed");
                }
                catch (Exception ex)
                {
                    MessageBox.Show(ex.Message);
                }
                conn.Close();
            }
            private object getPhoto()
            {
                MemoryStream st = new MemoryStream();
                RPB1.Image.Save(st, pictureBox1.Image.RawFormat);
                return st.GetBuffer();
            }
            private void PInsPic_Click(object sender, EventArgs e)
            {
                OpenFileDialog openFileDialog = new OpenFileDialog();
                if (openFileDialog.ShowDialog() == DialogResult.OK)
                {
                    RPB1.Image = new Bitmap(openFileDialog.FileName);
                }
            }
        }
    }
}

```

**Main:**

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
namespace Railway_Reservation_System
{
    public partial class Main : Form
    {
        public Main()
        {
            InitializeComponent();
        }
        private void TBTN_Click(object sender, EventArgs e)
        {
            Trains trains = new Trains();
            trains.Show();
        }

        private void PBTN_Click(object sender, EventArgs e)
        {
            Passenger passenger = new Passenger();
            passenger.Show();
        }

        private void Main_Load(object sender, EventArgs e)
        {
        }

        private void TvBTN_Click(object sender, EventArgs e)
        {
            Travel travel = new Travel();
            travel.Show();
        }
        private void ResBTN_Click(object sender, EventArgs e)
        {
            Reservation reservation = new Reservation();
            reservation.Show();
        }
        private void CanBTN_Click(object sender, EventArgs e)
        {
            Payment payment = new Payment();
            payment.Show();
        }
    }
}
```

**Passenger:**

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Data.SqlClient;
using System.Drawing;
using System.IO;
using System.Linq;
using System.Reflection;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using static System.Windows.Forms.VisualStyles.VisualStyleElement;
using static System.Windows.Forms.VisualStyles.VisualStyleElement.StartPanel;
namespace Railway_Reservation_System
{
    public partial class Passenger : Form
    {
        DataTable dt = new DataTable("Table");
    }
}
```



```

int index;
public Passenger()
{
    InitializeComponent();
}
SqlConnection conn = new SqlConnection(@"Data Source=RIDUAN-AZIZ\SQLEXPRESS;Initial
Catalog=Railway_Reservation_System;Integrated Security=True");
private void Passenger_Load(object sender, EventArgs e)
{
    PNRList.DataSource = dt;
}

private void TInsBTN_Click(object sender, EventArgs e)
{
    try
    {
        conn.Open();
        SqlCommand cmd = new SqlCommand("INSERT INTO Passenger(PNRID,UserName,Password,
FirstName,LastName,ContactNumber,DoB,Gender,Email,Address,PostCode,Picture) Values ('" + PTB.Text + "','" +
PTB1.Text + "','" + PTB2.Text + "','" + PTB3.Text + "','" + PTB4.Text + "','" + PTB5.Text + "','" +
this.DTP1.Text + "','" + RCB1.Text + "','" + PTB8.Text + "','" + PTB9.Text + "','" + PTB10.Text + "','" +
PPB1.Image + "')", conn);
        cmd.Parameters.AddWithValue("@Picture", getPhoto());
        cmd.ExecuteNonQuery();
        MessageBox.Show("Registration Completed");
    }
    catch (Exception ex)
    {
        MessageBox.Show(ex.Message);
    }
    conn.Close();
}
private object getPhoto()
{
    MemoryStream st = new MemoryStream();
    PPB1.Image.Save(st, pictureBox1.Image.RawFormat);
    return st.GetBuffer();
}
private void PInsPic_Click(object sender, EventArgs e)
{
    OpenFileDialog openFileDialog = new OpenFileDialog();
    if (openFileDialog.ShowDialog() == DialogResult.OK)
    {
        PPB1.Image = new Bitmap(openFileDialog.FileName);
    }
}
private void TDLtBTN_Click(object sender, EventArgs e)
{
    if (PNRList.SelectedRows.Count > 0)
    {
        PNRList.Rows.RemoveAt(PNRList.SelectedRows[0].Index);
    }
    String Query = "delete from Passenger where PNRID= '" + this.PTB.Text + "'";
    SqlCommand cmd = new SqlCommand(Query, conn);
    SqlDataReader myReader;
    try
    {
        conn.Open();
        myReader = cmd.ExecuteReader();
        MessageBox.Show("Deleted");
        while (myReader.Read())
        {
        }
    }
    catch (Exception ex)
    {
        MessageBox.Show(ex.Message);
    }
    conn.Close();
}
private void PNRList_CellContentClick(object sender, DataGridViewCellEventArgs e)
{
    index = e.RowIndex;
    DataGridViewRow row = PNRList.Rows[index];
    PTB.Text = row.Cells[0].Value.ToString();
    PTB1.Text = row.Cells[1].Value.ToString();
    PTB2.Text = row.Cells[2].Value.ToString();
    PTB3.Text = row.Cells[3].Value.ToString();
    PTB4.Text = row.Cells[4].Value.ToString();
    PTB5.Text = row.Cells[5].Value.ToString();
    DTP1.Text = row.Cells[6].Value.ToString();
    RCB1.Text = row.Cells[7].Value.ToString();
    PTB8.Text = row.Cells[8].Value.ToString();
    PTB9.Text = row.Cells[9].Value.ToString();
    PTB10.Text = row.Cells[10].Value.ToString();
    if (row.Cells[11].Value is Image image)
    {
        PPB1.Image = image;
    }
}
private void TShwBTN_Click(object sender, EventArgs e)

```

```

{
    try
    {
        dt.Rows.Clear();
        conn.Open();
        SqlCommand cmd = new SqlCommand("select * from Passenger", conn);
        cmd.ExecuteNonQuery();
        SqlDataAdapter da = new SqlDataAdapter(cmd);
        PNRList.DataSource = null;
        da.Fill(dt);
        PNRList.DataSource = dt;
        conn.Close();
    }
    catch (Exception ex)
    {
        MessageBox.Show(ex.Message);
    }
}

private void TUpdBTN_Click(object sender, EventArgs e)
{
    String Query = "update Passenger set UserName= '" + this.PTB1.Text + "', Password= '" + this.PTB2.Text
+ "', FirstName= '" + this.PTB3.Text + "', LastName= '" + this.PTB4.Text + "', ContactNumber= '" + this.PTB5.Text
+ "', DoB= '" + this.DTP1.Text + "', Gender= '" + this.RCB1.Text + "', Email= '" + this.PTB8.Text + "', Address= '"
+ this.PTB9.Text + "', PostCode= '" + this.PTB10.Text + "' Where PNRID= '" + this.PTB.Text + "';";
    SqlCommand cmd = new SqlCommand(Query, conn);
    SqlDataReader myReader;
    try
    {
        conn.Open();
        myReader = cmd.ExecuteReader();
        MessageBox.Show("Updated");
        while (myReader.Read())
        {
        }
    }
    catch (Exception ex)
    {
        MessageBox.Show(ex.Message);
    }
    conn.Close();
}

private void TSrhBTN_Click(object sender, EventArgs e)
{
    conn.Open();
    SqlCommand cmd2 = new SqlCommand("Select
UserName,Password,FirstName,LastName,ContactNumber,DoB,Gender,Email,Address,PostCode,Picture from Passenger where
PNRID=@idpar", conn);
    cmd2.Parameters.AddWithValue("idpar", PNRList.Text.Trim());
    SqlDataReader myReader;
    myReader = cmd2.ExecuteReader();
    if (myReader.Read())
    {
        PTB1.Text = myReader["UserName"].ToString();
        PTB2.Text = myReader["PassWord"].ToString();
        PTB3.Text = myReader["FirstName"].ToString();
        PTB4.Text = myReader["LastName"].ToString();
        PTB5.Text = myReader["ContactNumber"].ToString();
        DTP1.Text = myReader["DoB"].ToString();
        RCB1.Text = myReader["Gender"].ToString();
        PTB8.Text = myReader["Email"].ToString();
        PTB9.Text = myReader["Address"].ToString();
        PTB10.Text = myReader["PostCode"].ToString();
    }
    else
    {
        PTB1.Text = "";
        PTB2.Text = "";
        PTB3.Text = "";
        PTB4.Text = "";
        PTB5.Text = "";
        DTP1.Text = "";
        RCB1.Text = "";
        PTB8.Text = "";
        PTB9.Text = "";
        PTB10.Text = "";
        MessageBox.Show("No Data Found");
    }
    conn.Close();
}
}
}
}

```

### Trains:

```
using control;
using Microsoft.IdentityModel.Tokens;
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Data.SqlClient;
using System.Drawing;
using System.IO;
using System.Linq;
using System.Runtime.ConstrainedExecution;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using static System.Windows.Forms.VisualStyles.VisualStyleElement;
namespace Railway_Reservation_System
{
    public partial class Trains : Form
    {
        public Trains()
        {
            InitializeComponent();

            SqlConnection conn = new SqlConnection(@"Data Source=RIDUAN-
AZIZ\SQLEXPRESS;Initial Catalog=Railway_Reservation_System;Integrated Security=True");
            DataTable dt = new DataTable();
            private void Register_Load(object sender, EventArgs e)
            {
                SqlDataAdapter adapter = new SqlDataAdapter("Select isnull(max(cast(PNRID as
int)),0)+1 from Passenger", conn);
                adapter.Fill(dt);
                RTB1.Text = dt.Rows[0][0].ToString();
            }
            private void RegInsBTN_Click(object sender, EventArgs e)
            {
                try
                {
                    conn.Open();
                    SqlCommand cmd = new SqlCommand("INSERT INTO
Passenger(TrainID,UserName,Password,
FirstName,LastName,ContactNumber,DoB,Gender,Email,Address,PostCode,Picture) Values ('" +
RTB1.Text + "','" + PTB1.Text + "','" + PTB2.Text + "','" + PTB3.Text + "','" +
PTB4.Text + "','" + PTB5.Text + "','" + this.DTP1.Text + "','" + RCB1.Text + "','" +
PTB8.Text + "','" + PTB9.Text + "','" + PTB10.Text + "','" + RPB1.Image + "')", conn);
                    cmd.Parameters.AddWithValue("@Picture", getPhoto());
                    cmd.ExecuteNonQuery();
                    MessageBox.Show("Registration Completed");
                }
                catch (Exception ex)
                {
                    MessageBox.Show(ex.Message);
                }
                conn.Close();
            }
            private object getPhoto()
            {
                MemoryStream st = new MemoryStream();
                RPB1.Image.Save(st, pictureBox1.Image.RawFormat);
                return st.GetBuffer();
            }
            private void PInsPic_Click(object sender, EventArgs e)
            {
                OpenFileDialog openFileDialog = new OpenFileDialog();
                if (openFileDialog.ShowDialog() == DialogResult.OK)
                {
                    RPB1.Image = new Bitmap(openFileDialog.FileName);
                }
            }
        }
    }
}
```

### Schedule:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Data.SqlClient;
using System.Drawing;
using System.Linq;
using System.Reflection;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
namespace Railway_Reservation_System
{
    public partial class Travel : Form
    {
        public Travel()
        {
            InitializeComponent();
        }
        DataTable dt = new DataTable("Table");
        int index;
        SqlConnection conn = new SqlConnection(@"Data Source=RIDUAN-AZIZ\SQLEXPRESS;Initial
Catalog=Railway_Reservation_System;Integrated Security=True");
        private void TInsBTN_Click(object sender, EventArgs e)
        {
            try
            {
                conn.Open();
                SqlCommand cmd = new SqlCommand("INSERT INTO Schedule(ScheduleID,ScheduleCode,TrainID,
StationName,ScheduleType,DepartureTime,ArrivalTime,TrainType) Values ('" + TBTN1.Text + "','" + TBTN2.Text
+ "','" + TBTN3.Text + "','" + TBTN4.Text + "','" + TBTN5.Text + "','" + TBTN6.Text + "','" +
this.TBTN7.Text + "','" + TBTN8.Text + "')", conn);
                cmd.ExecuteNonQuery();
                MessageBox.Show("Insertion Completed");
            }
            catch (Exception ex)
            {
                MessageBox.Show(ex.Message);
            }
            conn.Close();
        }
        private void TDLtBTN_Click(object sender, EventArgs e)
        {
            if (SchList.SelectedRows.Count > 0)
            {
                SchList.Rows.RemoveAt(SchList.SelectedRows[0].Index);
            }
            String Query = "delete from Schedule where ScheduleID= '" + this.TBTN1.Text + "'";
            SqlCommand cmd = new SqlCommand(Query, conn);
            SqlDataReader myReader;
            try
            {
                conn.Open();
                myReader = cmd.ExecuteReader();
                MessageBox.Show("Deleted");
                while (myReader.Read())
                {
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show(ex.Message);
            }
            conn.Close();
        }
        private void SchList_CellContentClick(object sender, DataGridViewCellEventArgs e)
        {
            index = e.RowIndex;
            DataGridViewRow row = SchList.Rows[index];
            TBTN1.Text = row.Cells[0].Value.ToString();
            TBTN2.Text = row.Cells[1].Value.ToString();
            TBTN3.Text = row.Cells[2].Value.ToString();
            TBTN4.Text = row.Cells[3].Value.ToString();
            TBTN5.Text = row.Cells[4].Value.ToString();
            TBTN6.Text = row.Cells[5].Value.ToString();
            TBTN7.Text = row.Cells[6].Value.ToString();
            TBTN8.Text = row.Cells[7].Value.ToString();
        }
        private void TUpdBTN_Click(object sender, EventArgs e)
        {
            String Query = "update Schedule set ScheduleID= '" + this.TBTN1.Text + "', ScheduleCode= '" +
this.TBTN2.Text + "', TrainID= '" + this.TBTN3.Text + "', StationName= '" + this.TBTN4.Text + "',
```

```

ScheduleType= ' ' + this.TBTN5.Text + ', DepartureTime= ' + this.TBTN6.Text + ', ArrivalTime= ' +
this.TBTN7.Text + ', TrainType= ' + this.TBTN8.Text + ' Where ScheduleID= ' + this.TBTN1.Text + '';
SqlCommand cmd = new SqlCommand(Query, conn);
SqlDataReader myReader;
try
{
    conn.Open();
    myReader = cmd.ExecuteReader();
    MessageBox.Show("Updated");
    while (myReader.Read())
    {
    }
}
catch (Exception ex)
{
    MessageBox.Show(ex.Message);
}
conn.Close();
}

private void TShwBTN_Click(object sender, EventArgs e)
{
    try
    {
        dt.Rows.Clear();
        conn.Open();
        SqlCommand cmd = new SqlCommand("select * from Schedule", conn);
        cmd.ExecuteNonQuery();
        SqlDataAdapter da = new SqlDataAdapter(cmd);
        SchList.DataSource = null;
        da.Fill(dt);
        SchList.DataSource = dt;
        conn.Close();
    }
    catch (Exception ex)
    {
        MessageBox.Show(ex.Message);
    }
}

private void TSrhBTN_Click(object sender, EventArgs e)
{
    conn.Open();
    SqlCommand cmd2 = new SqlCommand("Select
ScheduleID,ScheduleCode,TrainID,StationName,ScheduleType,DepartureTime,ArrivalTime,TrainType from Schedule
where ScheduleID=@idpar", conn);
    cmd2.Parameters.AddWithValue("idpar", SchList.Text.Trim());
    SqlDataReader myReader;
    myReader = cmd2.ExecuteReader();
    if (myReader.Read())
    {
        TBTN1.Text = myReader["ScheduleID"].ToString();
        TBTN2.Text = myReader["ScheduleCode"].ToString();
        TBTN3.Text = myReader["TrainID"].ToString();
        TBTN4.Text = myReader["StationName"].ToString();
        TBTN5.Text = myReader["ScheduleType"].ToString();
        TBTN6.Text = myReader["DepartureTime"].ToString();
        TBTN7.Text = myReader["ArrivalTime"].ToString();
        TBTN8.Text = myReader["TrainType"].ToString();
    }
    else
    {
        TBTN1.Text = "";
        TBTN2.Text = "";
        TBTN3.Text = "";
        TBTN4.Text = "";
        TBTN5.Text = "";
        TBTN6.Text = "";
        TBTN7.Text = "";
        TBTN8.Text = "";

        MessageBox.Show("No Data Found");
    }
    conn.Close();
}

private void Travel_Load(object sender, EventArgs e)
{
}
}
}

```

### Reservations:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Data.SqlClient;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
namespace Railway_Reservation_System
{
    public partial class Reservation : Form
    {
        public Reservation()
        {
            InitializeComponent();
        }
        DataTable dt = new DataTable("Table");
        int index;
        SqlConnection conn = new SqlConnection(@"Data Source=RIDUAN-AZIZ\SQLEXPRESS;Initial
Catalog=Railway_Reservation_System;Integrated Security=True");
        private void TInsBTN_Click(object sender, EventArgs e)
        {
            try
            {
                conn.Open();
                SqlCommand cmd = new SqlCommand("INSERT INTO Reservation(ResID,PNRID,TrainID,
SourceStaion,DestinationStation,TravelDate,ScheduleID) Values ('" + TBTN1.Text + "','" + TBTN2.Text
+ "','" + TBTN3.Text + "','" + TBTN4.Text + "','" + TBTN5.Text + "','" + TBTN10.Text + "','" +
TBTN6.Text + "','')", conn);
                cmd.ExecuteNonQuery();
                MessageBox.Show("Insertion Completed");
                TBTN1.Text = "";
                TBTN2.Text = "";
                TBTN3.Text = "";
                TBTN4.Text = "";
                TBTN5.Text = "";
                TBTN10.Text = "";
                TBTN6.Text = "";
            }
            catch (Exception ex)
            {
                MessageBox.Show(ex.Message);
            }
            conn.Close();
        }
        private void TDelBTN_Click(object sender, EventArgs e)
        {
            if (ResList.SelectedRows.Count > 0)
            {
                ResList.Rows.RemoveAt(ResList.SelectedRows[0].Index);
            }
            String Query = "delete from Reservation where ResID= '" + this.TBTN1.Text + "'";
            SqlCommand cmd = new SqlCommand(Query, conn);
            SqlDataReader myReader;
            try
            {
                conn.Open();
                myReader = cmd.ExecuteReader();
                MessageBox.Show("Deleted");
                while (myReader.Read())
                {
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show(ex.Message);
            }
            conn.Close();
        }
        private void SchList_CellContentClick(object sender, DataGridViewCellEventArgs e)
        {
            index = e.RowIndex;
            DataGridViewRow row = ResList.Rows[index];
            TBTN1.Text = row.Cells[0].Value.ToString();
            TBTN2.Text = row.Cells[1].Value.ToString();
            TBTN3.Text = row.Cells[2].Value.ToString();
        }
    }
}
```

```

        TBTN4.Text = row.Cells[3].Value.ToString();
        TBTN5.Text = row.Cells[4].Value.ToString();
        TBTN10.Text = row.Cells[5].Value.ToString();
        TBTN6.Text = row.Cells[6].Value.ToString();
    }
    private void TUpdBTN_Click(object sender, EventArgs e)
    {
        String Query = "update Reservation set ResID= '" + this.TBTN1.Text + "', PNRID= '" +
this.TBTN2.Text + "', TrainID= '" + this.TBTN3.Text + "', SourceStation= '" + this.TBTN4.Text + "',
DestinationStation= '" + this.TBTN5.Text + "', TravelDate= '" + this.TBTN10.Text + "', ScheduleID=
'" + this.TBTN6.Text + "' Where ResID= '" + this.TBTN1.Text + "'";
        SqlCommand cmd = new SqlCommand(Query, conn);
        SqlDataReader myReader;
        try
        {
            conn.Open();
            myReader = cmd.ExecuteReader();
            MessageBox.Show("Updated");
            while (myReader.Read())
            {
            }
        }
        catch (Exception ex)
        {
            MessageBox.Show(ex.Message);
        }
        conn.Close();
    }
    private void TShwBTN_Click(object sender, EventArgs e)
    {
        try
        {
            dt.Rows.Clear();
            conn.Open();
            SqlCommand cmd = new SqlCommand("select * from Reservation", conn);
            cmd.ExecuteNonQuery();
            SqlDataAdapter da = new SqlDataAdapter(cmd);
            ResList.DataSource = null;
            da.Fill(dt);
            ResList.DataSource = dt;
            conn.Close();
        }
        catch (Exception ex)
        {
            MessageBox.Show(ex.Message);
        }
    }
    private void TSrhBTN_Click(object sender, EventArgs e)
    {
        conn.Open();
        SqlCommand cmd2 = new SqlCommand("Select
ResID,PNRID,TrainID,SourceStation,DestinationStation,TravelDate,ScheduleID from Reservation where
ResID=@idpar", conn);
        cmd2.Parameters.AddWithValue("idpar", ResList.Text.Trim());
        SqlDataReader myReader;
        myReader = cmd2.ExecuteReader();
        if (myReader.Read())
        {
            TBTN1.Text = myReader["ResID"].ToString();
            TBTN2.Text = myReader["PNRID"].ToString();
            TBTN3.Text = myReader["TrainID"].ToString();
            TBTN4.Text = myReader["SourceStation"].ToString();
            TBTN5.Text = myReader["DestinationStation"].ToString();
            TBTN10.Text = myReader["TravelDate"].ToString();
            TBTN6.Text = myReader["ScheduleID"].ToString();
        }
        else
        {
            TBTN1.Text = "";
            TBTN2.Text = "";
            TBTN3.Text = "";
            TBTN4.Text = "";
            TBTN5.Text = "";
            TBTN10.Text = "";
            TBTN6.Text = "";
            MessageBox.Show("No Data Found");
        }
        conn.Close();
    }
}

```

### Payments:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Data.SqlClient;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
namespace Railway_Reservation_System
{
    public partial class Payment : Form
    {
        public Payment()
        {
            InitializeComponent();
        }
        private void Payment_Load(object sender, EventArgs e)
        {
        }
        DataTable dt = new DataTable("Table");
        int index;
        SqlConnection conn = new SqlConnection(@"Data Source=RIDUAN-AZIZ\SQLEXPRESS;Initial
Catalog=Railway_Reservation_System;Integrated Security=True");
        private void TInsBTN_Click(object sender, EventArgs e)
        {
            try
            {
                conn.Open();
                SqlCommand cmd = new SqlCommand("INSERT INTO
Payment(PaymentID,ResID,PNRID,Amount,PaymentMethod) Values ('" + TBTN1.Text + "','" + TBTN2.Text +
"', '" + TBTN3.Text + "','" + TBTN4.Text + "','" + TBTN5.Text + "','', conn);
                cmd.ExecuteNonQuery();
                MessageBox.Show("Insertion Completed");
                TBTN1.Text = "";
                TBTN2.Text = "";
                TBTN3.Text = "";
                TBTN4.Text = "";
                TBTN5.Text = "";
            }
            catch (Exception ex)
            {
                MessageBox.Show(ex.Message);
            }
            conn.Close();
        }
        private void TDelBTN_Click(object sender, EventArgs e)
        {
            if (PayList.SelectedRows.Count > 0)
            {
                PayList.Rows.RemoveAt(PayList.SelectedRows[0].Index);
            }
            String Query = "delete from Payment where PaymentID= '" + this.TBTN1.Text + "'";
            SqlCommand cmd = new SqlCommand(Query, conn);
            SqlDataReader myReader;
            try
            {
                conn.Open();
                myReader = cmd.ExecuteReader();
                MessageBox.Show("Deleted");
                while (myReader.Read())
                {
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show(ex.Message);
            }
            conn.Close();
        }
        private void SchList_CellContentClick(object sender, DataGridViewCellEventArgs e)
        {
            index = e.RowIndex;
            DataGridViewRow row = PayList.Rows[index];
            TBTN1.Text = row.Cells[0].Value.ToString();
            TBTN2.Text = row.Cells[1].Value.ToString();
            TBTN3.Text = row.Cells[2].Value.ToString();
        }
    }
}
```



```

        TBTN4.Text = row.Cells[3].Value.ToString();
        TBTN5.Text = row.Cells[4].Value.ToString();
    }
    private void TUpdBTN_Click(object sender, EventArgs e)
    {
        String Query = "update Payment set PaymentID= '" + this.TBTN1.Text + "', ResID= '" +
this.TBTN2.Text + "', PNRID= '" + this.TBTN3.Text + "', Amount= '" + this.TBTN4.Text + "',
PaymentMethod= '" + this.TBTN5.Text + "';";
        SqlCommand cmd = new SqlCommand(Query, conn);
        SqlDataReader myReader;
        try
        {
            conn.Open();
            myReader = cmd.ExecuteReader();
            MessageBox.Show("Updated");
            while (myReader.Read())
            {
            }
        }
        catch (Exception ex)
        {
            MessageBox.Show(ex.Message);
        }
        conn.Close();
    }
    private void TShwBTN_Click(object sender, EventArgs e)
    {
        try
        {
            dt.Rows.Clear();
            conn.Open();
            SqlCommand cmd = new SqlCommand("select * from Payment", conn);
            cmd.ExecuteNonQuery();
            SqlDataAdapter da = new SqlDataAdapter(cmd);
            PayList.DataSource = null;
            da.Fill(dt);
            PayList.DataSource = dt;
            conn.Close();
        }
        catch (Exception ex)
        {
            MessageBox.Show(ex.Message);
        }
    }
    private void TSrhBTN_Click(object sender, EventArgs e)
    {
        conn.Open();
        SqlCommand cmd2 = new SqlCommand("Select PaymentID,ResID,PNRID,Amount,PaymentMethod from
Payment where PaymentID=@idpar", conn);
        cmd2.Parameters.AddWithValue("idpar", PayList.Text.Trim());
        SqlDataReader myReader;
        myReader = cmd2.ExecuteReader();
        if (myReader.Read())
        {
            TBTN1.Text = myReader["PaymentID"].ToString();
            TBTN2.Text = myReader["ResID"].ToString();
            TBTN3.Text = myReader["PNRID"].ToString();
            TBTN4.Text = myReader["Amount"].ToString();
            TBTN5.Text = myReader["PaymentMethod"].ToString();
        }
        else
        {
            TBTN1.Text = "";
            TBTN2.Text = "";
            TBTN3.Text = "";
            TBTN4.Text = "";
            TBTN5.Text = "";
            MessageBox.Show("No Data Found");
        }
        conn.Close();
    }
}
}
}

```