NAAN MUDHALVAN SCHEME

MERN STACK POWERED BY Mongo DB

(BOOKSHOP MANAGAMENT SYSTEM)

SUBMITTED BY

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1 PROJECT PROPOSAL

1.1 Project Description

Main object of this project is to provide easiness for bookshops to manage their records. In the Bookshop store, there are many books that are managed but sometime you cannot find the right book or sometime it is difficult for employees to remember the books name or location or maybe the price of books. So, keeping track of all the books in the store in the location is very important.

The Bookshop management system application will helps in managing the books in a wellorganized way. The database should be efficient enough which will be capable of holding all the details or the information related to the bookshop.

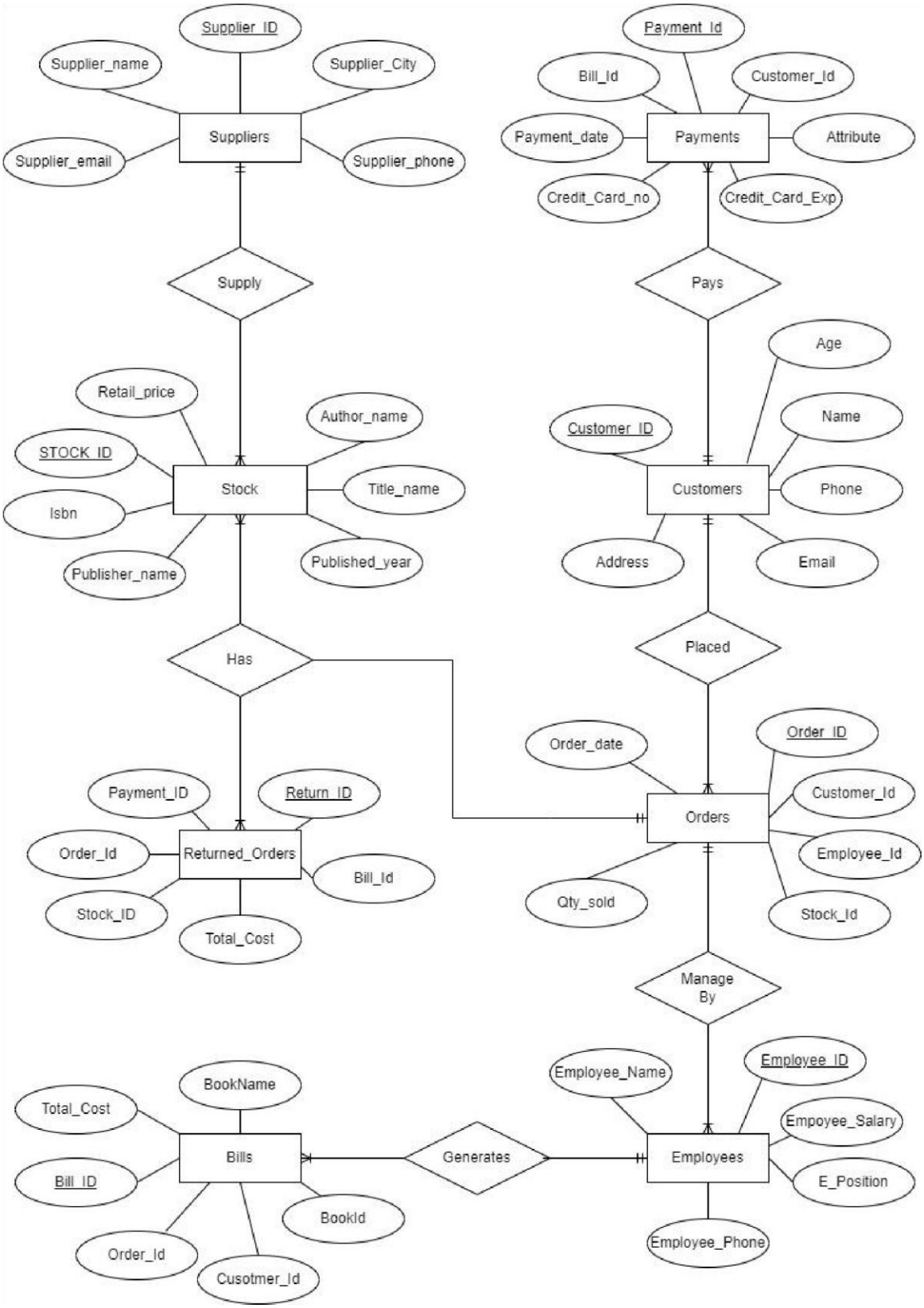
The interface of the project will be in Windows Application Forms developed using C# language in Visual Studio 2019. **1.2 Project Objectives**

The objectives of bookshop management system are related to managing (adding, deleting, changing, updating and searching) the records of Supplier, available Stock related to the books in the shop, Employees details like salaries and the orders which they are handling, Customer details, Generating bills for customer orders and managing their payments also they records of orders which have been returned by customers.

1.3 Entities of Project

1. Suppliers Table
2. Stock Table
3. Employees Table
4. Customers Table
5. Orders Table
6. Bills Table
7. Payments Table
8. Returned Orders Table

2 Project ERD



3 Database Code and Queries

```sql
--BOOKSHOP MANAGEMENT SYSTEM

CREATE TABLE SuppliersTb(
       Supplier_ID INT NOT NULL,
       Supplier_name VARCHAR(55) NOT NULL,
    Supplier_City VARCHAR(55),
       Supplier_email VARCHAR(55),
       Supplier_phone VARCHAR(55) NOT NULL,
    PRIMARY KEY (Supplier_ID)
    );  insert into SuppliersTb values(1,'SN1','City1','SN1@gmail.com','0321-
6020450') insert into SuppliersTb values(2,'SN2','City2','SN2@gmail.com','0322-
6020450') insert into SuppliersTb values(3,'SN3','City3','SN3@gmail.com','0323-
6020450') insert into SuppliersTb values(4,'SN4','City4','SN4@gmail.com','0324-
6020450') insert into SuppliersTb values(5,'SN5','City5','SN5@gmail.com','0325-
6020450') insert into SuppliersTb values(6,'SN6','City6','SN6@gmail.com','0326-
6020450') insert into SuppliersTb values(7,'SN7','City7','SN7@gmail.com','0327-
6020450') insert into SuppliersTb values(8,'SN8','City8','SN8@gmail.com','0328-
6020450') insert into SuppliersTb values(9,'SN9','City9','SN9@gmail.com','0329-
6020450') insert into SuppliersTb values(10,'SN0','City10','SN10@gmail.com','0330-
6020450')
select * from SuppliersTb

drop table SuppliersTb

create table StockTb(
       StockID INT primary key,
       SupplierID INT foreign key references SuppliersTb(Supplier_ID),
       BookID varchar(50) unique not null,
       AuthorName varchar(50) not null,
       BookName varchar(50) not null,
       PublisherName varchar(50) not null,
       PublishedYear varchar(50) not null,
       Price int not null
);
drop table StockTb

INSERT INTO StockTb VALUES(1,1,'BOOK1','J.R.R Tolken','The Hobbit','Allen &
Unwin','1937', 1100);
INSERT INTO StockTb VALUES(2,1,'BOOK2','Tanith Lee','The Castle of
Dark','Macmilla','1930', 1200);
INSERT INTO StockTb VALUES(3,2,'BOOK3','Tanith Lee','The Winter
Players','Macmilla','1977', 1300);
INSERT INTO StockTb VALUES(4,2,'BOOK4','Anne Rice','Tale of the Thief','Penguin','2016',
1400);
INSERT INTO StockTb VALUES(5,3,'BOOK5','J.R.R Tolken','The Lord of the Rings : Fellowship
of the ring','Allen & Unwin','1937', 1500);
INSERT INTO StockTb VALUES(6,3,'BOOK6','Mark Stevenson','Prince and the Pauper','American
Pushlishing Co','2011', 1600);
INSERT INTO StockTb VALUES(7,4,'BOOK7','Ribbly Scott','Alien','Morpheus','1996', 1700);
INSERT INTO StockTb VALUES(8,4,'BOOK8','James Clavell','Gone Girl','Paramount','2015',
1800);
INSERT INTO StockTb VALUES(9,5,'BOOK9','Megan Miranda','All the Missing Girls','H &
R','2016', 1900);
INSERT INTO StockTb VALUES(10,6,'BOOK10','Sarah Mass','Empire of Storms','Pearson
Plc','2006', 2000);
```

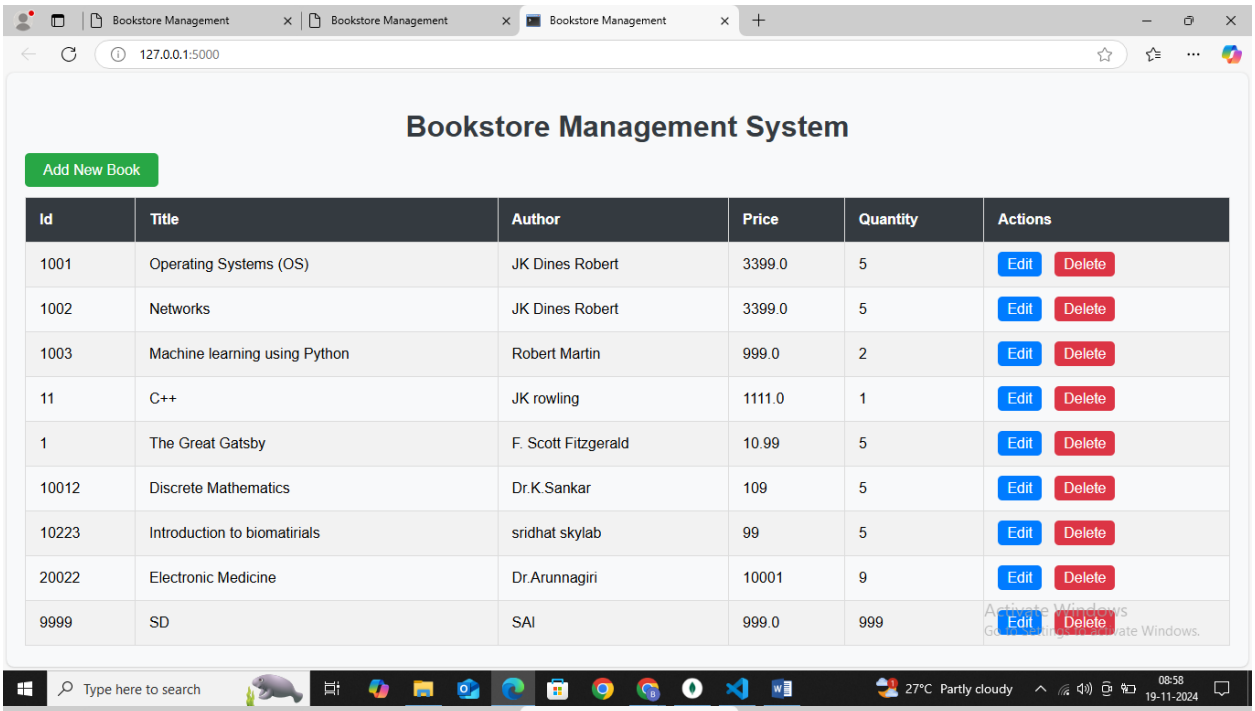
```sql
select * from StockTb

select AuthorName, COUNT(PublishedYear)
from StockTb group by AuthorName

CREATE TABLE Employees(
	Employee_ID INT PRIMARY KEY,
	Employee_Name VARCHAR(50),
	Employee_ContactNumber VARCHAR(50),
	Employee_Position VARCHAR(50),
	Employee_Salary MONEY CHECK(Employee_Salary>20000) NOT NULL,
	);
 insert into Employees values (1,'Rizwan','012-4289087','Manager',30000);
insert into Employees values (2,'Aasd','013-4289087','Accountant',35000);
insert into Employees values (3,'Umar','014-4289087','Clerak',22000); drop
table Employees

CREATE TABLE Customer(
	Customer_ID INT NOT NULL,
	Name VARCHAR(30) NOT NULL,
	CustomerAddress VARCHAR(max) NOT NULL,
	Phone VARCHAR(50) NOT NULL,
	Email VARCHAR(50) NOT NULL,
	Age INT NOT NULL CHECK(Age>10),
	PRIMARY KEY (Customer_ID)
);

	INSERT INTO Customer VALUES(1,'Nouman','Sialkot','0313-
12345433','Customer1@gmail.com',18)
	INSERT INTO Customer VALUES(2,'Asad','Sialkot','0314-
12145436','Customer2@gmail.com',17)
	INSERT INTO Customer VALUES(3,'Sarfaraz','Sialkot','0315-
12145436','Customer3@gmail.com',22)
	INSERT INTO Customer VALUES(4,'Ali','Sialkot','0316-
12145436','Customer4@gmail.com',23)
	INSERT INTO Customer VALUES(5,'Usman','Sialkot','0317-
12145436','Customer5@gmail.com',24)
	INSERT INTO Customer VALUES(6,'Salman','Sialkot','0318-
12145436','Customer6@gmail.com',25)
	INSERT INTO Customer VALUES(7,'Hassan','Sialkot','0319-
12145436','Customer7@gmail.com',26)
	INSERT INTO Customer VALUES(8,'Daud','Sialkot','0320-
12145436','Customer8@gmail.com',28)
	INSERT INTO Customer VALUES(9,'Nauman','Sialkot','0321-
12145436','Customer9@gmail.com',30)
	INSERT INTO Customer VALUES(10,'Yaseen','Sialkot','0322-
12145436','Customer10@gmail.com',33)
drop table Customer

	CREATE TABLE Orders(
	Order_ID INT NOT NULL,
	Customer_ID INT FOREIGN KEY REFERENCES Customer(Customer_ID),
	Customer_Name VARCHAR(50),
```

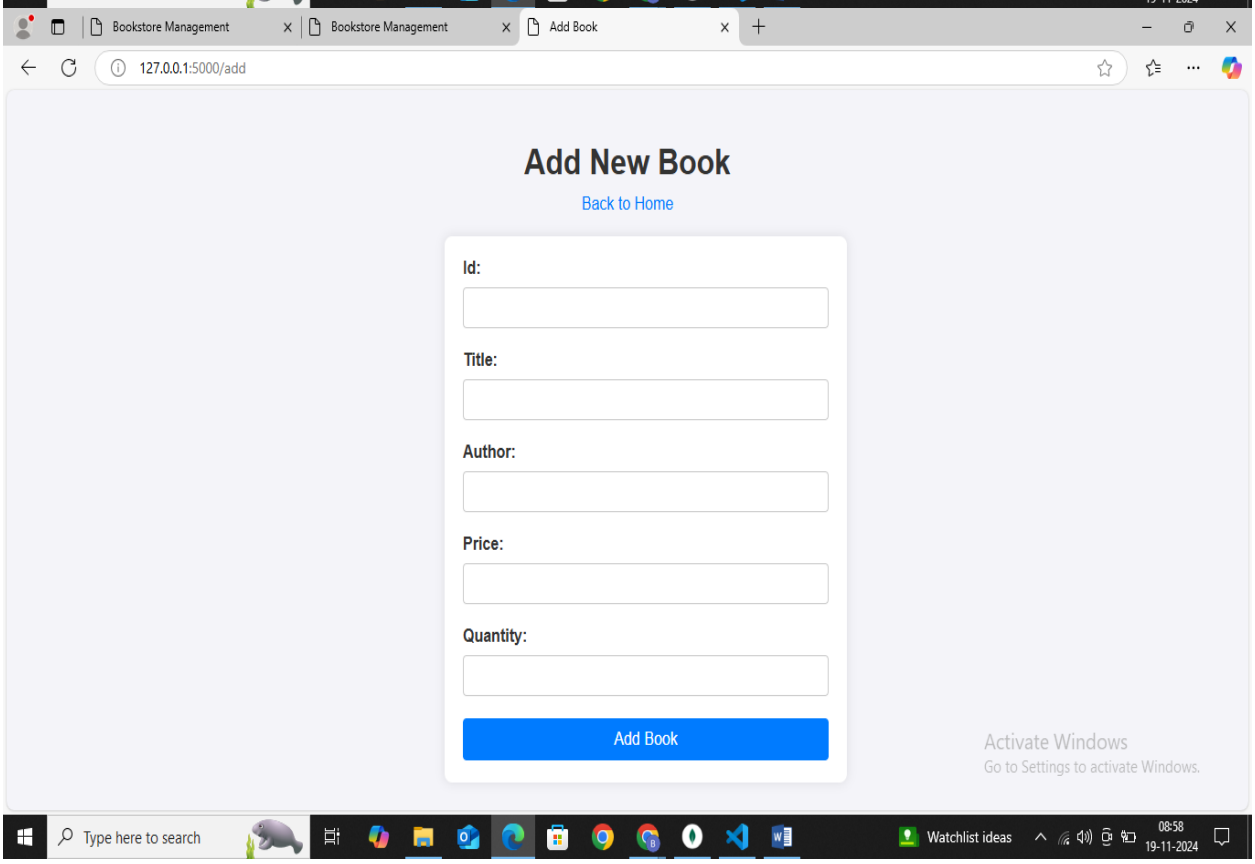
```
    Employee_ID INT FOREIGN KEY REFERENCES Employees(Employee_ID),
    StockID       INT FOREIGN KEY REFERENCES StockTb(StockID),
    Qty_sold INT,
    Order_Date VARCHAR(55),
  PRIMARY KEY (Order_ID),
  );

    INSERT INTO Orders VALUES(1,1,'Nauman'  ,1,1,1,'2-2-2022')
    INSERT INTO Orders VALUES(2,2,'Asad'    ,1,2,2,'3-2-2022')
    INSERT INTO Orders VALUES(3,1,'Nauman'  ,1,1,1,'4-2-2022')
    INSERT INTO Orders VALUES(4,3,'Sarfaraz',1,3,2,'5-2-2022')
    INSERT INTO Orders VALUES(5,3,'Sarfaraz',1,4,1,'6-2-2022')

    Select * From Orders

    Select Customer_ID, Qty_sold From Orders
    group by Customer_ID, Qty_sold

    drop table Orders

    CREATE TABLE Bill_Generate(
    Bill_ID INT primary key,
    Order_ID INT FOREIGN KEY REFERENCES Orders(Order_ID),
    Customer_ID INT FOREIGN KEY REFERENCES Customer(Customer_ID),
    StockID       INT FOREIGN KEY REFERENCES StockTb(StockID),
    Bill_Date date,
    Total_Cost INT CHECK(Total_Cost>0) NOT NULL,
    );

    INSERT INTO Bill_Generate VALUES(1,1,1,1,'2-2-2022',1100)
    INSERT INTO Bill_Generate VALUES(2,2,2,2,'3-2-2022',1200)
    INSERT INTO Bill_Generate VALUES(3,3,1,1,'4-2-2022',1100)
    INSERT INTO Bill_Generate VALUES(4,4,3,3,'5-2-2022',1300)
    INSERT INTO Bill_Generate VALUES(5,5,3,4,'6-2-2022',1300)


    DROP TABLE Bill_Generate

    CREATE TABLE PAYMENTS(
    Payment_ID INT PRIMARY KEY,
    Bill_ID INT FOREIGN KEY REFERENCES Bill_Generate(Bill_ID),
    Customer_ID INT FOREIGN KEY REFERENCES Customer(Customer_ID),
    Credit_card_numb VARCHAR(55) NOT NULL,
    Credit_card_expiry varchar(55) NOT NULL,
    PaymentPaid INT CHECK(PaymentPaid>0) NOT NULL,
    );

INSERT INTO PAYMENTS VALUES(1,1,1,'1717-22-233','11-17-2024',1100)
INSERT INTO PAYMENTS VALUES(2,2,2,'1718-23-233','01-17-2025',1200)
INSERT INTO PAYMENTS VALUES(3,3,1,'1719-24-233','03-17-2023',1100)
INSERT INTO PAYMENTS VALUES(4,4,3,'1720-25-233','05-17-2030',1300)
INSERT INTO PAYMENTS VALUES(5,5,3,'1721-26-233','07-17-2045',1300)

    drop table PAYMENTS
```

```
       CREATE TABLE Returns(
       Return_ID INT PRIMARY KEY,
       Bill_ID INT FOREIGN KEY REFERENCES Bill_Generate(Bill_ID),    Payment_ID INT
FOREIGN KEY REFERENCES PAYMENTS(Payment_ID),
       Order_ID INT FOREIGN KEY REFERENCES Orders(Order_ID),
    PayReturned int,
    )

    INSERT INTO Returns VALUES(1,1,1,1,1100)
       INSERT INTO Returns VALUES(2,5,5,5,1300)

       select * from Returns
       drop table Returns

       SELECT * FROM Orders
       WHERE Order_Date BETWEEN '2-2-2022'AND'5-2-2022';
       Select * From StockTb
       SELECT * from StockTb where PublishedYear = 2016
--total sales group by customer id from payments       select
Sum(Total_Cost) from Payments
       select Sum(Total_Cost),Customer_ID
       from Payments        Group by
Customer_ID   having Max(Total_Cost)
> 2000
       select Sum(Total_Cost) As 'Total Sale' From PAYMENTS;
```

4 Application Interface and Code

4.1 Application Interface


Bookstore Management
Bookstore Management
Bookstore Management
127.0.0.1:5000
Bookstore Management System
Add New Book
Id
Title
Author
Price
Quantity
Actions
1001 Operating Systems (OS) JK Dines Robert 3399.0 5 Edit Delete
1002 Networks JK Dines Robert 3399.0 5 Edit Delete
1003 Machine learning using Python Robert Martin 999.0 2 Edit Delete
11 C++ JK rowling 1111.0 1 Edit Delete
1 The Great Gatsby F. Scott Fitzgerald 10.99 5 Edit Delete
10012 Discrete Mathematics Dr.K.Sankar 109 5 Edit Delete
10223 Introduction to biomatirials sridhat skylab 99 5 Edit Delete
20022 Electronic Medicine Dr.Arunnagiri 10001 9 Edit Delete
9999 SD SAI 999.0 999 Edit Delete
Activate Windows
Type here to search
27°C Partly cloudy
08:58
19-11-2024


Bookstore Management
Bookstore Management
Add Book
127.0.0.1:5000/add
Add New Book
Back to Home
Id:
Title:
Author:
Price:
Quantity:
Add Book
Activate Windows
Go to Settings to activate Windows.
Type here to search
Watchlist ideas
08:58
19-11-2024

4.2 Application Code

4.2.1 Main Menu Form Code

```
using System; using
System.Windows.Forms; using
System.Data.SqlClient; using
System.Data;

namespace Bookshop
{
    public partial class Menu : Form
    {
        public Menu()
        {
            InitializeComponent();
        }
        private void Button1_Click(object sender, EventArgs e)
{
            Supplier s1 = new Supplier();
s1.Show();
        }
        private void Button2_Click(object sender, EventArgs e)
        {
            Stock f1 = new Stock();
f1.Show();
        }
        private void Button3_Click(object sender, EventArgs e)
        {
            Employees e1 = new Employees();
e1.Show();
        }
        private void Button4_Click(object sender, EventArgs e)
        {
            Customers_Details c1 = new Customers_Details();
c1.Show();
        }
        private void Button5_Click(object sender, EventArgs e)
        {
            Orders o1 = new Orders();
o1.Show();
        }
        private void Button6_Click(object sender, EventArgs e)
```

```
        {
            Bills b1 = new Bills();
b1.Show();
        }
        private void Menu_Load(object sender, EventArgs e)
        {
        }
        private void Button7_Click(object sender, EventArgs e)
        {
            Payments p1 = new Payments();
p1.Show();
        }
        private void Button8_Click(object sender, EventArgs e)
        {
            ReturnedOrders r1 = new ReturnedOrders();
r1.Show();
        }
    } }
```

4.2.2 Supplier Form Code

```
using System; using
System.Windows.Forms; using
System.Data.SqlClient; using
System.Data;

namespace Bookshop
{
    public partial class Supplier : Form
    {
        public Supplier()
        {
            InitializeComponent();
        }
        public int SupplierID;
        SqlConnection con = new SqlConnection("Data
Source=FAHADMUGHAL\\SQLEXPRESS;Initial Catalog=CSharp;Integrated Security=True");
private void Supplier_Load(object sender, EventArgs e)
        {
            GetSupplierRecords();
            ResetFormControls();
        }
        private void ResetFormControls()
        {
            SupplierID = 0;
textBox2.Clear();
textBox3.Clear();
textBox4.Clear();
textBox6.Clear();
textBox8.Clear();
textBox2.Focus();
        }
        private void GetSupplierRecords()
        {
```

```
            SqlCommand cmd = new SqlCommand("Select * from SuppliersTb", con);
            DataTable dt = new DataTable();
            con.Open();
            SqlDataReader sdr = cmd.ExecuteReader();
            dt.Load(sdr);
con.Close();
            SuppliersRecordsDataGridView.DataSource = dt;
        }
        private void Button4_Click(object sender, EventArgs e)
        {
            ResetFormControls();
        }
        private void Button1_Click(object sender, EventArgs e)
        {
            if(IsValid())
            {
try
                {
                    SqlCommand cmd = new SqlCommand("INSERT INTO SuppliersTb VALUES
(@SupplierID, @Supplier_name, @Supplier_City, @Supplier_email, @Supplier_phone)", con);
cmd.CommandType = CommandType.Text;
                    cmd.Parameters.AddWithValue("@SupplierID", textBox2.Text);
cmd.Parameters.AddWithValue("@Supplier_name", textBox3.Text);
cmd.Parameters.AddWithValue("@Supplier_City", textBox4.Text);
cmd.Parameters.AddWithValue("@Supplier_email", textBox6.Text);
cmd.Parameters.AddWithValue("@Supplier_phone", textBox8.Text);
con.Open();                     cmd.ExecuteNonQuery();
con.Close();
                    MessageBox.Show("New Supplier Record Sucessfully Saved In The
Database", "Saved", MessageBoxButtons.OK, MessageBoxIcon.Information);
                    GetSupplierRecords();
                }
                catch(Exception Ex)
                {
                    MessageBox.Show(Ex.Message);
                }

            }
}
        private bool IsValid()
        {
            if (textBox2.Text == string.Empty)
            {
                MessageBox.Show("Supplier ID Is Required", "Failed",
MessageBoxButtons.OK, MessageBoxIcon.Error);
return false;
            }
            return true;
        }
        private void SuppliersRecordsDataGridView_CellClick(object sender,
DataGridViewCellEventArgs e)
        {
            SupplierID =
```

```
Convert.ToInt32(SuppliersRecordsDataGridView.SelectedRows[0].Cells[0].Value);
textBox2.Text =
SuppliersRecordsDataGridView.SelectedRows[0].Cells[0].Value.ToString();
textBox3.Text =
SuppliersRecordsDataGridView.SelectedRows[0].Cells[1].Value.ToString();
textBox4.Text =
SuppliersRecordsDataGridView.SelectedRows[0].Cells[2].Value.ToString();
textBox6.Text =
SuppliersRecordsDataGridView.SelectedRows[0].Cells[3].Value.ToString();
textBox8.Text =
SuppliersRecordsDataGridView.SelectedRows[0].Cells[4].Value.ToString();
        }
        private void Button3_Click(object sender, EventArgs e)
        {
            if (SupplierID > 0)
            {
                SqlCommand cmd = new SqlCommand("DELETE FROM SuppliersTb WHERE
Supplier_ID = @ID", con);
                cmd.CommandType = CommandType.Text;
                cmd.Parameters.AddWithValue("@ID", this.SupplierID);
con.Open();                 cmd.ExecuteNonQuery();
con.Close();
                MessageBox.Show("Supplier Record Deleted Sucessfully", "Deleted",
MessageBoxButtons.OK, MessageBoxIcon.Information);
                GetSupplierRecords();
                ResetFormControls();
            }
else
            {
                MessageBox.Show("Please Select A Supplier Records To Delete.", "Select?",
MessageBoxButtons.OK, MessageBoxIcon.Error);
            }
}
        private void Button2_Click(object sender, EventArgs e)
        {
            if (SupplierID > 0)
            {
try
                {
                    SqlCommand cmd = new SqlCommand("UPDATE SuppliersTb SET Supplier_ID =
@SupplierID, Supplier_name = @SupplierName , Supplier_city = @SupplierCity,
Supplier_email = @SupplierEmail, Supplier_phone = @SupplierPhone WHERE Supplier_ID =
@ID", con);
                    cmd.CommandType = CommandType.Text;
                    cmd.Parameters.AddWithValue("@SupplierID", textBox2.Text);
cmd.Parameters.AddWithValue("@SupplierName", textBox3.Text);
cmd.Parameters.AddWithValue("@SupplierCity", textBox4.Text);
cmd.Parameters.AddWithValue("@SupplierEmail", textBox6.Text);
cmd.Parameters.AddWithValue("@SupplierPhone", textBox8.Text);
cmd.Parameters.AddWithValue("@ID", this.SupplierID);
con.Open();                     cmd.ExecuteNonQuery();
con.Close();
                    MessageBox.Show("Stock Updated Sucessfully", "Updated",
MessageBoxButtons.OK, MessageBoxIcon.Information);
                    GetSupplierRecords();
```

```
                    ResetFormControls();
                }
                catch (Exception Ex)
                {
                    MessageBox.Show(Ex.Message);
                }
}             else
            {
                MessageBox.Show("Please Select A Stock To Update Its Information.",
"Select?", MessageBoxButtons.OK, MessageBoxIcon.Error);
            }
        }
    } }
```

4.2.3 Stock Form Code

```
using System;
using System.Windows.Forms; using
System.Data.SqlClient; using
System.Data;

namespace Bookshop
{     public partial class Stock :
Form
    {
        public Stock()
        {
            InitializeComponent();
        }
        public int StockID;
        SqlConnection con = new SqlConnection("Data
Source=FAHADMUGHAL\\SQLEXPRESS;Initial Catalog=CSharp;Integrated Security=True");
private void Button1_Click(object sender, EventArgs e)
        {
            if(IsValid())
            {
try
                {
                    SqlCommand cmd = new SqlCommand("INSERT INTO StockTb VALUES
(@StockID, @SupplierID, @BookID, @AuthorName, @BookName, @PublisherName, @PublishedYear,
@Price)", con);
                    cmd.CommandType = CommandType.Text;
                    cmd.Parameters.AddWithValue("@StockID", textBox1.Text);
cmd.Parameters.AddWithValue("@SupplierID", textBox2.Text);
cmd.Parameters.AddWithValue("@BookID", textBox3.Text);
cmd.Parameters.AddWithValue("@AuthorName", textBox4.Text);
cmd.Parameters.AddWithValue("@BookName", textBox5.Text);
cmd.Parameters.AddWithValue("@PublisherName", textBox6.Text);
cmd.Parameters.AddWithValue("@PublishedYear", textBox7.Text);
cmd.Parameters.AddWithValue("@Price", textBox8.Text);
con.Open();                     cmd.ExecuteNonQuery();
con.Close();
                    MessageBox.Show("New Stock Sucessfully Saved In The Database",
"Saved", MessageBoxButtons.OK, MessageBoxIcon.Information);
```

```
                    GetStockRecords();
                }
                catch (Exception Ex)
                {
                    MessageBox.Show(Ex.Message);
                }

            }
}
        private bool IsValid()
        {
            if(textBox2.Text == string.Empty)
            {
                MessageBox.Show("Stock ID Is Required", "Failed", MessageBoxButtons.OK,
MessageBoxIcon.Error);                 return false;
            }
            return true;
        }
        private void Button2_Click(object sender, EventArgs e)
        {
            if(StockID>0)
            {
try
                {
                    SqlCommand cmd = new SqlCommand("UPDATE StockTb SET StockID =
@StockId, SupplierID = @SupplierID , BookID = @BookID, AuthorName = @AuthorName,
@BookName = @BookName, PublisherName = @PublisherName, PublishedYear = @PublishedYear,
Price = @Price WHERE StockID = @ID", con);                     cmd.CommandType =
CommandType.Text;
                    cmd.Parameters.AddWithValue("@StockID", textBox1.Text);
cmd.Parameters.AddWithValue("@SupplierID", textBox2.Text);
cmd.Parameters.AddWithValue("@BookID", textBox3.Text);
cmd.Parameters.AddWithValue("@AuthorName", textBox4.Text);
cmd.Parameters.AddWithValue("@BookName", textBox5.Text);
cmd.Parameters.AddWithValue("@PublisherName", textBox6.Text);
cmd.Parameters.AddWithValue("@PublishedYear", textBox7.Text);
cmd.Parameters.AddWithValue("@Price", textBox8.Text);
cmd.Parameters.AddWithValue("@ID", this.StockID);                     con.Open();
cmd.ExecuteNonQuery();                     con.Close();
                    MessageBox.Show("Stock Updated Sucessfully", "Updated",
MessageBoxButtons.OK, MessageBoxIcon.Information);

                    GetStockRecords();
                    ResetFormControls();
                }
                catch (Exception Ex)
                {
                    MessageBox.Show(Ex.Message);
                }
}             else
            {
                MessageBox.Show("Please Select A Stock To Update Its Information.",
"Select?", MessageBoxButtons.OK, MessageBoxIcon.Error);
            }
```

```
        }
        private void Form1_Load(object sender, EventArgs e)
        {
            GetStockRecords();
            ResetFormControls();
        }
        private void GetStockRecords()
        {

            SqlCommand cmd = new SqlCommand("Select * from StockTb", con);
            DataTable dt = new DataTable();
con.Open();
            SqlDataReader sdr = cmd.ExecuteReader();
dt.Load(sdr);             con.Close();
            StockRecordsDataGridView.DataSource = dt;
}
        private void Button4_Click(object sender, EventArgs e)
        {
            ResetFormControls();
         }
        private void ResetFormControls()
        {
            StockID = 0;
textBox1.Clear();
textBox2.Clear();
textBox3.Clear();
textBox4.Clear();
textBox5.Clear();
textBox6.Clear();
textBox7.Clear();
textBox8.Clear();
textBox1.Focus();
        }
        private void StockRecordsDataGridView_CellClick(object sender,
DataGridViewCellEventArgs e)
        {
            StockID =
Convert.ToInt32(StockRecordsDataGridView.SelectedRows[0].Cells[0].Value);
textBox1.Text =
StockRecordsDataGridView.SelectedRows[0].Cells[0].Value.ToString();
textBox2.Text =
StockRecordsDataGridView.SelectedRows[0].Cells[1].Value.ToString();
textBox3.Text =
StockRecordsDataGridView.SelectedRows[0].Cells[2].Value.ToString();
textBox4.Text =
StockRecordsDataGridView.SelectedRows[0].Cells[3].Value.ToString();
textBox5.Text =
StockRecordsDataGridView.SelectedRows[0].Cells[4].Value.ToString();
textBox6.Text =
StockRecordsDataGridView.SelectedRows[0].Cells[5].Value.ToString();
textBox7.Text =
StockRecordsDataGridView.SelectedRows[0].Cells[6].Value.ToString();
textBox8.Text =
StockRecordsDataGridView.SelectedRows[0].Cells[7].Value.ToString();
        }
```

```
        private void Button3_Click(object sender, EventArgs e)
        {
            if(StockID>0)
            {
                SqlCommand cmd = new SqlCommand("DELETE FROM StockTb WHERE StockID =
@ID", con);
                cmd.CommandType = CommandType.Text;

                cmd.Parameters.AddWithValue("@ID", this.StockID);
con.Open();                 cmd.ExecuteNonQuery();
con.Close();
                MessageBox.Show("Stock Deleted Sucessfully", "Deleted",
MessageBoxButtons.OK, MessageBoxIcon.Information);
                GetStockRecords();
                ResetFormControls();
            }
else
            {
                MessageBox.Show("Please Select A Stock To Delete.", "Select?",
MessageBoxButtons.OK, MessageBoxIcon.Error);
            }
        }
    }
}
```

4.2.4 Employees Form Code

```
using      System;      using
System.Windows.Forms;   using
System.Data.SqlClient;  using
System.Data;

namespace Bookshop
{
    public partial class Employees : Form
    {
        public Employees()
        {
            InitializeComponent();
        }
        public int EmployeeID;
        SqlConnection con = new SqlConnection("Data
Source=FAHADMUGHAL\\SQLEXPRESS;Initial Catalog=CSharp;Integrated Security=True");
private void Employees_Load(object sender, EventArgs e)
        {
            GetEmployeesRecords();
            ResetFormControls();
        }
        private void ResetFormControls()
        {
            EmployeeID = 0;
textBox2.Clear();
textBox3.Clear();
textBox4.Clear();
textBox6.Clear();
```

```
textBox8.Clear();
textBox2.Focus();
        }
        private void GetEmployeesRecords()
        {
            SqlCommand cmd = new SqlCommand("Select * from Employees", con);
            DataTable dt = new DataTable();
con.Open();
            SqlDataReader sdr = cmd.ExecuteReader();
            dt.Load(sdr);
con.Close();
            EmployeesRecordsDataGridView.DataSource = dt;
        }
        private void Button4_Click(object sender, EventArgs e)
        {
            ResetFormControls();
        }
        private void Button1_Click(object sender, EventArgs e)
        {
            if(IsValid())
            {
try
                {
                    SqlCommand cmd = new SqlCommand("INSERT INTO Employees VALUES
(@Employee_ID, @Employee_Name, @Employee_ContactNumber, @Employee_Position,
@Employee_Salary)", con);
                    cmd.CommandType = CommandType.Text;
                    cmd.Parameters.AddWithValue("@Employee_ID", textBox2.Text);
cmd.Parameters.AddWithValue("@Employee_Name", textBox3.Text);
cmd.Parameters.AddWithValue("@Employee_ContactNumber", textBox4.Text);
                    cmd.Parameters.AddWithValue("@Employee_Position", textBox6.Text);
cmd.Parameters.AddWithValue("@Employee_Salary", textBox8.Text);
con.Open();                     cmd.ExecuteNonQuery();
con.Close();
                    MessageBox.Show("New Employee Record Sucessfully Saved In The
Database", "Saved", MessageBoxButtons.OK, MessageBoxIcon.Information);
                    GetEmployeesRecords();
                }
                catch (Exception Ex)
                {
                    MessageBox.Show(Ex.Message);
                }
            }
}
        private bool IsValid()
        {
            if (textBox2.Text == string.Empty)
            {
                MessageBox.Show("Supplier ID Is Required", "Failed",
MessageBoxButtons.OK, MessageBoxIcon.Error);
return false;
            }
            return true;
        }
```

```
        private void EmployeesRecordsDataGridView_CellClick(object sender,
DataGridViewCellEventArgs e)
        {
            EmployeeID =
Convert.ToInt32(EmployeesRecordsDataGridView.SelectedRows[0].Cells[0].Value);
textBox2.Text =
EmployeesRecordsDataGridView.SelectedRows[0].Cells[0].Value.ToString();
textBox3.Text =
EmployeesRecordsDataGridView.SelectedRows[0].Cells[1].Value.ToString();
textBox4.Text =
EmployeesRecordsDataGridView.SelectedRows[0].Cells[2].Value.ToString();
textBox6.Text =
EmployeesRecordsDataGridView.SelectedRows[0].Cells[3].Value.ToString();
textBox8.Text =
EmployeesRecordsDataGridView.SelectedRows[0].Cells[4].Value.ToString();
        }
        private void Button3_Click(object sender, EventArgs e)
        {
            if (EmployeeID > 0)
            {
                SqlCommand cmd = new SqlCommand("DELETE FROM Employees WHERE Employee_ID
= @ID", con);
                cmd.CommandType = CommandType.Text;
                cmd.Parameters.AddWithValue("@ID", this.EmployeeID);
con.Open();                 cmd.ExecuteNonQuery();
con.Close();
                MessageBox.Show("Employee Record Deleted Sucessfully", "Deleted",
MessageBoxButtons.OK, MessageBoxIcon.Information);
                GetEmployeesRecords();
                ResetFormControls();
            }
else
            {
                MessageBox.Show("Please Select A Employee Records To Delete.", "Select?",
MessageBoxButtons.OK, MessageBoxIcon.Error);
            }
}
        private void Button2_Click(object sender, EventArgs e)
        {
            if (EmployeeID > 0)
            {
try
                {
                    SqlCommand cmd = new SqlCommand("UPDATE Employees SET Employee_ID =
@Employee_ID, Employee_Name = @EmployeeName , Employee_ContactNumber =
@Employee_ContactNumber, Employee_Position = @Employee_Position, Employee_Salary =
@Employee_Salary WHERE Employee_ID = @ID", con);
cmd.CommandType = CommandType.Text;
                    cmd.Parameters.AddWithValue("@Employee_ID", textBox2.Text);
cmd.Parameters.AddWithValue("@EmployeeName", textBox3.Text);
cmd.Parameters.AddWithValue("@Employee_ContactNumber", textBox4.Text);
                    cmd.Parameters.AddWithValue("@Employee_Position", textBox6.Text);
cmd.Parameters.AddWithValue("@Employee_Salary", textBox8.Text);
cmd.Parameters.AddWithValue("@ID", this.EmployeeID);                    con.Open();
cmd.ExecuteNonQuery();                    con.Close();
```

```
                    MessageBox.Show("Stock Updated Sucessfully", "Updated",
MessageBoxButtons.OK, MessageBoxIcon.Information);

                    GetEmployeesRecords();
                    ResetFormControls();
                }
                catch (Exception Ex)
                {
                    MessageBox.Show(Ex.Message);
                }

            }
else
            {
                MessageBox.Show("Please Select A Stock To Update Its Information.",
"Select?", MessageBoxButtons.OK, MessageBoxIcon.Error);
            }
        }
    }
}
```

4.2.5 Customer Form Code using

```
System;
using System.Windows.Forms; using
System.Data.SqlClient; using
System.Data; namespace Bookshop
{
    public partial class Customers_Details : Form
    {
        public Customers_Details()
{
            InitializeComponent();
        }
        public int CustomerID;
        SqlConnection con = new SqlConnection("Data
Source=FAHADMUGHAL\\SQLEXPRESS;Initial Catalog=CSharp;Integrated Security=True");
private void Customers_Details_Load(object sender, EventArgs e)
        {
            GetCustomersRecords();
        }
        private void GetCustomersRecords()
        {

            SqlCommand cmd = new SqlCommand("Select * from Customer", con);
            DataTable dt = new DataTable();
con.Open();
            SqlDataReader sdr = cmd.ExecuteReader();
            dt.Load(sdr);
con.Close();
            CustomersRecordsDataGridView.DataSource = dt;
        }
        private void Button4_Click(object sender, EventArgs e)
        {
            ResetFormControls();
```

```
        }
        private void ResetFormControls()
        {
            CustomerID = 0;
textBox1.Clear();
textBox2.Clear();
textBox3.Clear();
textBox4.Clear();
textBox5.Clear();
textBox6.Clear();
textBox1.Focus();
        }
        private void Button1_Click(object sender, EventArgs e)
        {
            if(IsValid())
            {
try
                {
                    SqlCommand cmd = new SqlCommand("INSERT INTO Customer VALUES
(@Customer_ID, @Name, @CustomerAddress, @Phone, @Email, @Age)", con);
cmd.CommandType = CommandType.Text;
                    cmd.Parameters.AddWithValue("@Customer_ID", textBox1.Text);
cmd.Parameters.AddWithValue("@Name", textBox2.Text);
cmd.Parameters.AddWithValue("@CustomerAddress", textBox3.Text);
cmd.Parameters.AddWithValue("@Phone", textBox4.Text);
cmd.Parameters.AddWithValue("@Email", textBox5.Text);
cmd.Parameters.AddWithValue("@Age", textBox6.Text);
                    con.Open();
cmd.ExecuteNonQuery();
con.Close();
                    MessageBox.Show("New Stock Sucessfully Saved In The Database",
"Saved", MessageBoxButtons.OK, MessageBoxIcon.Information);

                    GetCustomersRecords();
                }
                catch (Exception Ex)
                {
                   MessageBox.Show(Ex.Message);
                }

            }
}
        private bool IsValid()
        {
            if (textBox1.Text == string.Empty)
            {
                MessageBox.Show("Customer ID Is Required", "Failed",
MessageBoxButtons.OK, MessageBoxIcon.Error);
return false;
            }
            return true;
        }
        private void CustomersRecordsDataGridView_CellClick(object sender,
DataGridViewCellEventArgs e)
        {
```

```
            CustomerID =
Convert.ToInt32(CustomersRecordsDataGridView.SelectedRows[0].Cells[0].Value);
textBox1.Text =
CustomersRecordsDataGridView.SelectedRows[0].Cells[0].Value.ToString();
textBox2.Text =
CustomersRecordsDataGridView.SelectedRows[0].Cells[1].Value.ToString();
textBox3.Text =
CustomersRecordsDataGridView.SelectedRows[0].Cells[2].Value.ToString();
textBox4.Text =
CustomersRecordsDataGridView.SelectedRows[0].Cells[3].Value.ToString();
textBox5.Text =
CustomersRecordsDataGridView.SelectedRows[0].Cells[4].Value.ToString();
textBox6.Text =
CustomersRecordsDataGridView.SelectedRows[0].Cells[5].Value.ToString();
        }
        private void Button3_Click(object sender, EventArgs e)
        {
            if (CustomerID > 0)
            {
                SqlCommand cmd = new SqlCommand("DELETE FROM Customer WHERE Customer_ID =
@ID", con);
                cmd.CommandType = CommandType.Text;
                 cmd.Parameters.AddWithValue("@ID", this.CustomerID);
con.Open();                 cmd.ExecuteNonQuery();
con.Close();
                MessageBox.Show("Customer Deleted Sucessfully", "Deleted",
MessageBoxButtons.OK, MessageBoxIcon.Information);

                GetCustomersRecords();
                ResetFormControls();
            }
else
            {
                MessageBox.Show("Please Select A Customer To Delete.", "Select?",
MessageBoxButtons.OK, MessageBoxIcon.Error);
            }
}
        private void Button2_Click(object sender, EventArgs e)
        {
            if (CustomerID > 0)
            {
try
                {
                    SqlCommand cmd = new SqlCommand("UPDATE Customer SET Customer_ID =
@Customer_ID, Name = @Name, CustomerAddress = @CustomerAddress, Phone = @Phone, Email =
@Email, Age = @Age WHERE Customer_ID = @ID", con);
cmd.CommandType = CommandType.Text;
                    cmd.Parameters.AddWithValue("@Customer_ID", textBox1.Text);
cmd.Parameters.AddWithValue("@Name", textBox2.Text);
cmd.Parameters.AddWithValue("@CustomerAddress", textBox3.Text);
cmd.Parameters.AddWithValue("@Phone", textBox4.Text);
cmd.Parameters.AddWithValue("@Email", textBox5.Text);
cmd.Parameters.AddWithValue("@Age", textBox6.Text);
cmd.Parameters.AddWithValue("@ID", this.CustomerID);                    con.Open();
cmd.ExecuteNonQuery();                    con.Close();
```

```
                    MessageBox.Show("Stock Updated Sucessfully", "Updated",
MessageBoxButtons.OK, MessageBoxIcon.Information);

                    GetCustomersRecords();
                    ResetFormControls();
                }
                catch (Exception Ex)
                {
                    MessageBox.Show(Ex.Message);
                }
}             else
            {                 MessageBox.Show("Please Select A Customer To Update Its
Information.",
"Select?", MessageBoxButtons.OK, MessageBoxIcon.Error);
}
        }
    } }
```

4.2.6 Orders Form Code

```
using System;
using System.Windows.Forms;
using System.Data.SqlClient;
using System.Data;

namespace Bookshop
{
    public partial class Orders : Form
    {
        public Orders()
        {
            InitializeComponent();
        }
        public int OrderID;
        SqlConnection con = new SqlConnection("Data
Source=FAHADMUGHAL\\SQLEXPRESS;Initial Catalog=CSharp;Integrated Security=True");
private void Orders_Load(object sender, EventArgs e)
        {
            GetOrdersRecords();
        }
        private void GetOrdersRecords()
        {
            SqlCommand cmd = new SqlCommand("Select * from Orders", con);
            DataTable dt = new DataTable();
con.Open();
            SqlDataReader sdr = cmd.ExecuteReader();
            dt.Load(sdr);
con.Close();
            OrdersRecordsDataGridView.DataSource = dt;
        }
        private void Button4_Click(object sender, EventArgs e)
        {
            ResetFormControls();
        }
        private void ResetFormControls()
```

```
        {
            OrderID = 0;
textBox1.Clear();
textBox2.Clear();
textBox3.Clear();
textBox4.Clear();
textBox5.Clear();
textBox6.Clear();
textBox7.Clear();
textBox1.Focus();
        }
        private void Button1_Click(object sender, EventArgs e)
        {
            if(IsValid())
            {
try
                {
                    SqlCommand cmd = new SqlCommand("INSERT INTO Orders VALUES
(@Order_ID, @Customer_ID, @Customer_Name, @Employee_ID, @StockID, @Qty_sold,
@Order_Date)", con);
                    cmd.CommandType = CommandType.Text;
                    cmd.Parameters.AddWithValue("@Order_ID", textBox1.Text);
cmd.Parameters.AddWithValue("@Customer_ID", textBox2.Text);
cmd.Parameters.AddWithValue("@Customer_Name", textBox3.Text);
cmd.Parameters.AddWithValue("@Employee_ID", textBox4.Text);
cmd.Parameters.AddWithValue("@StockID", textBox5.Text);
cmd.Parameters.AddWithValue("@Qty_sold", textBox6.Text);
cmd.Parameters.AddWithValue("@Order_Date", textBox7.Text);
con.Open();                     cmd.ExecuteNonQuery();                     con.Close();
                    MessageBox.Show("New Stock Sucessfully Saved In The Database",
"Saved", MessageBoxButtons.OK, MessageBoxIcon.Information);

                    GetOrdersRecords();
                }
                catch(Exception Ex)
                {
                    MessageBox.Show(Ex.Message);
                }
            }
}
        private bool IsValid()
        {
            if (textBox1.Text == string.Empty)
            {
                MessageBox.Show("Order ID Is Required", "Failed", MessageBoxButtons.OK,
MessageBoxIcon.Error);                 return false;
            }
            return true;
        }
        private void OrdersRecordsDataGridView_CellClick(object sender,
DataGridViewCellEventArgs e)
        {
            OrderID =
Convert.ToInt32(OrdersRecordsDataGridView.SelectedRows[0].Cells[0].Value);
textBox1.Text =
```

```
OrdersRecordsDataGridView.SelectedRows[0].Cells[0].Value.ToString();
textBox2.Text =
OrdersRecordsDataGridView.SelectedRows[0].Cells[1].Value.ToString();
textBox3.Text =
OrdersRecordsDataGridView.SelectedRows[0].Cells[2].Value.ToString();
textBox4.Text =
OrdersRecordsDataGridView.SelectedRows[0].Cells[3].Value.ToString();
textBox5.Text =
OrdersRecordsDataGridView.SelectedRows[0].Cells[4].Value.ToString();
textBox6.Text =
OrdersRecordsDataGridView.SelectedRows[0].Cells[5].Value.ToString();
textBox7.Text =
OrdersRecordsDataGridView.SelectedRows[0].Cells[6].Value.ToString();
}
        private void Button3_Click(object sender, EventArgs e)
        {
            if (OrderID > 0)
            {
                SqlCommand cmd = new SqlCommand("DELETE FROM Orders WHERE Order_ID =
@ID", con);
                cmd.CommandType = CommandType.Text;
cmd.Parameters.AddWithValue("@ID", this.OrderID);
con.Open();                 cmd.ExecuteNonQuery();
con.Close();
                MessageBox.Show("Stock Deleted Sucessfully", "Deleted",
MessageBoxButtons.OK, MessageBoxIcon.Information);

                GetOrdersRecords();
                ResetFormControls();
            }
else
            {
                MessageBox.Show("Please Select A Order To Delete.", "Select?",
MessageBoxButtons.OK, MessageBoxIcon.Error);
            }
        }
        private void Button2_Click(object sender, EventArgs e)
        {
            if (OrderID > 0)
            {
try
                {
                    SqlCommand cmd = new SqlCommand("UPDATE Orders SET Order_ID =
@Order_ID, Customer_ID = @Customer_ID , Customer_Name = @Customer_Name, Employee_ID =
@Employee_ID, StockID = @StockID, Qty_sold = @Qty_sold, Order_Date = @Order_Date WHERE
Order_ID = @ID", con);
                    cmd.CommandType = CommandType.Text;
                    cmd.Parameters.AddWithValue("@Order_ID", textBox1.Text);
cmd.Parameters.AddWithValue("@Customer_ID", textBox2.Text);
cmd.Parameters.AddWithValue("@Customer_Name", textBox3.Text);
cmd.Parameters.AddWithValue("@Employee_ID", textBox4.Text);
cmd.Parameters.AddWithValue("@StockID", textBox5.Text);
cmd.Parameters.AddWithValue("@Qty_sold", textBox6.Text);
cmd.Parameters.AddWithValue("@Order_Date", textBox7.Text);
```

```
cmd.Parameters.AddWithValue("@ID", this.OrderID);                    con.Open();
cmd.ExecuteNonQuery();                    con.Close();
                    MessageBox.Show("Order Record Updated Sucessfully", "Updated",
MessageBoxButtons.OK, MessageBoxIcon.Information);
                    GetOrdersRecords();
                    ResetFormControls();
                }
                catch (Exception Ex)
                {
                    MessageBox.Show(Ex.Message);
                }
}             else
            {
                MessageBox.Show("Please Select A Order To Update Its Information.",
"Select?", MessageBoxButtons.OK, MessageBoxIcon.Error);
            }
        }
    }
}
```

4.2.7 Generate Bills Form Code

```
using System; using
System.Windows.Forms; using
System.Data.SqlClient; using
System.Data;

namespace Bookshop
{
    public partial class Bills : Form
    {
        public Bills()
        {
            InitializeComponent();
        }
        public int BillID;
        SqlConnection con = new SqlConnection("Data
Source=FAHADMUGHAL\\SQLEXPRESS;Initial Catalog=CSharp;Integrated Security=True");
private void Bills_Load(object sender, EventArgs e)
        {
            GetBillsRecords();
        }
        private void GetBillsRecords()
        {

            SqlCommand cmd = new SqlCommand("Select * from Bill_Generate", con);
            DataTable dt = new DataTable();
            con.Open();
            SqlDataReader sdr = cmd.ExecuteReader();
            dt.Load(sdr);
con.Close();
            BillsRecordsDataGridView.DataSource = dt;
        }
        private void Button4_Click(object sender, EventArgs e)
        {
```

```
            ResetFormControls();
        }
        private void ResetFormControls()
        {
            BillID = 0;
textBox1.Clear();
textBox2.Clear();
textBox3.Clear();
textBox4.Clear();
textBox5.Clear();
textBox6.Clear();
textBox1.Focus();
        }
        private void Button1_Click(object sender, EventArgs e)
        {
                if (IsValid())
                {
try
                    {
                        SqlCommand cmd = new SqlCommand("INSERT INTO Bill_Generate VALUES
(@Bill_ID , @Order_ID, @Customer_ID, @StockID, @Bill_Date , @Total_Cost)", con);
cmd.CommandType = CommandType.Text;
                        cmd.Parameters.AddWithValue("@Bill_ID ", textBox1.Text);
cmd.Parameters.AddWithValue("@Order_ID", textBox2.Text);
cmd.Parameters.AddWithValue("@Customer_ID", textBox3.Text);
cmd.Parameters.AddWithValue("@StockID", textBox4.Text);
cmd.Parameters.AddWithValue("@Bill_Date ", textBox5.Text);
cmd.Parameters.AddWithValue("@Total_Cost", textBox6.Text);
con.Open();                          cmd.ExecuteNonQuery();
con.Close();
                        MessageBox.Show("New Bill Generated Sucessfully Saved In The
Database", "Saved", MessageBoxButtons.OK, MessageBoxIcon.Information);

                        GetBillsRecords();
                    }
                    catch (Exception Ex)
                    {
                        MessageBox.Show(Ex.Message);
                    }
                }
}
        private bool IsValid()
        {
            if (textBox1.Text == string.Empty)
            {
                MessageBox.Show("Bill ID Is Required", "Failed", MessageBoxButtons.OK,
MessageBoxIcon.Error);                  return false;
            }
            return true;
        }
        private void BillsRecordsDataGridView_CellClick(object sender,
DataGridViewCellEventArgs e)
        {
            BillID =
```

```
Convert.ToInt32(BillsRecordsDataGridView.SelectedRows[0].Cells[0].Value);
textBox1.Text =
BillsRecordsDataGridView.SelectedRows[0].Cells[0].Value.ToString();
textBox2.Text =
BillsRecordsDataGridView.SelectedRows[0].Cells[1].Value.ToString();
textBox3.Text =
BillsRecordsDataGridView.SelectedRows[0].Cells[2].Value.ToString();
textBox4.Text =
BillsRecordsDataGridView.SelectedRows[0].Cells[3].Value.ToString();
textBox5.Text =
BillsRecordsDataGridView.SelectedRows[0].Cells[4].Value.ToString();
textBox6.Text =
BillsRecordsDataGridView.SelectedRows[0].Cells[5].Value.ToString();
}
        private void Button3_Click(object sender, EventArgs e)
        {
            if (BillID > 0)
            {
                SqlCommand cmd = new SqlCommand("DELETE FROM Bill_Generate WHERE Bill_ID
= @ID", con);
                cmd.CommandType = CommandType.Text;

                cmd.Parameters.AddWithValue("@ID", this.BillID);
con.Open();                 cmd.ExecuteNonQuery();
                con.Close();
                MessageBox.Show("Bill Record Deleted Sucessfully", "Deleted",
MessageBoxButtons.OK, MessageBoxIcon.Information);
                GetBillsRecords();
                ResetFormControls();
            }
else
            {
                MessageBox.Show("Please Select A Bill To Delete.", "Select?",
MessageBoxButtons.OK, MessageBoxIcon.Error);
            }
        }
        private void Button2_Click(object sender, EventArgs e)
        {
            if (BillID > 0)
            {
try
```