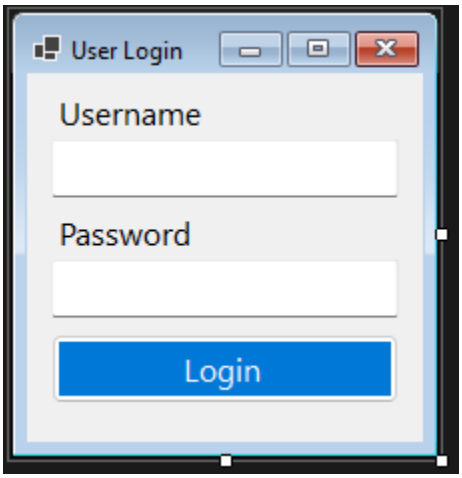
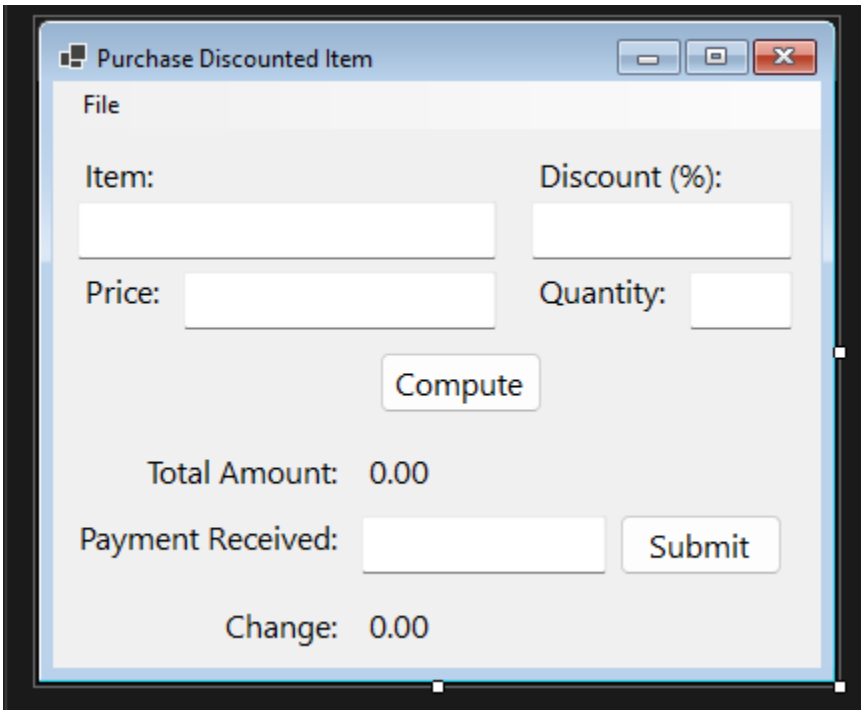
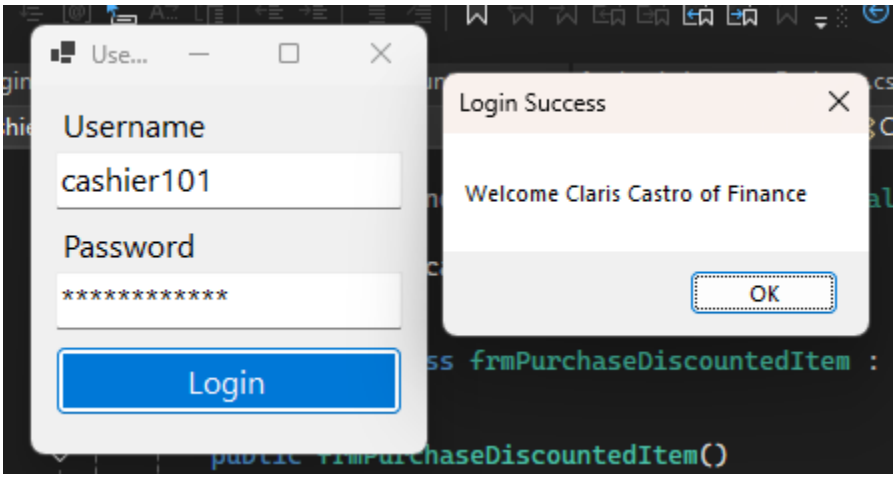
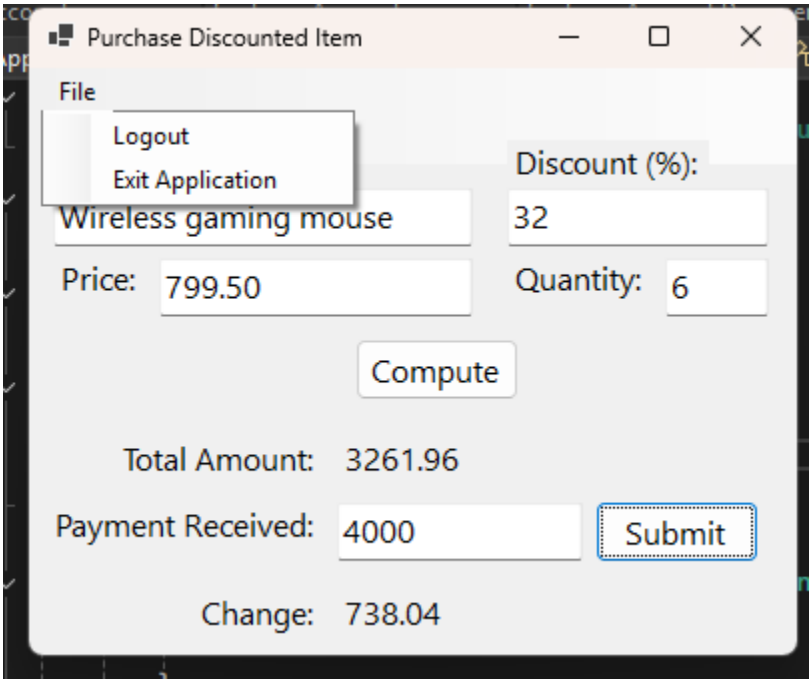
Screenshot of the design:



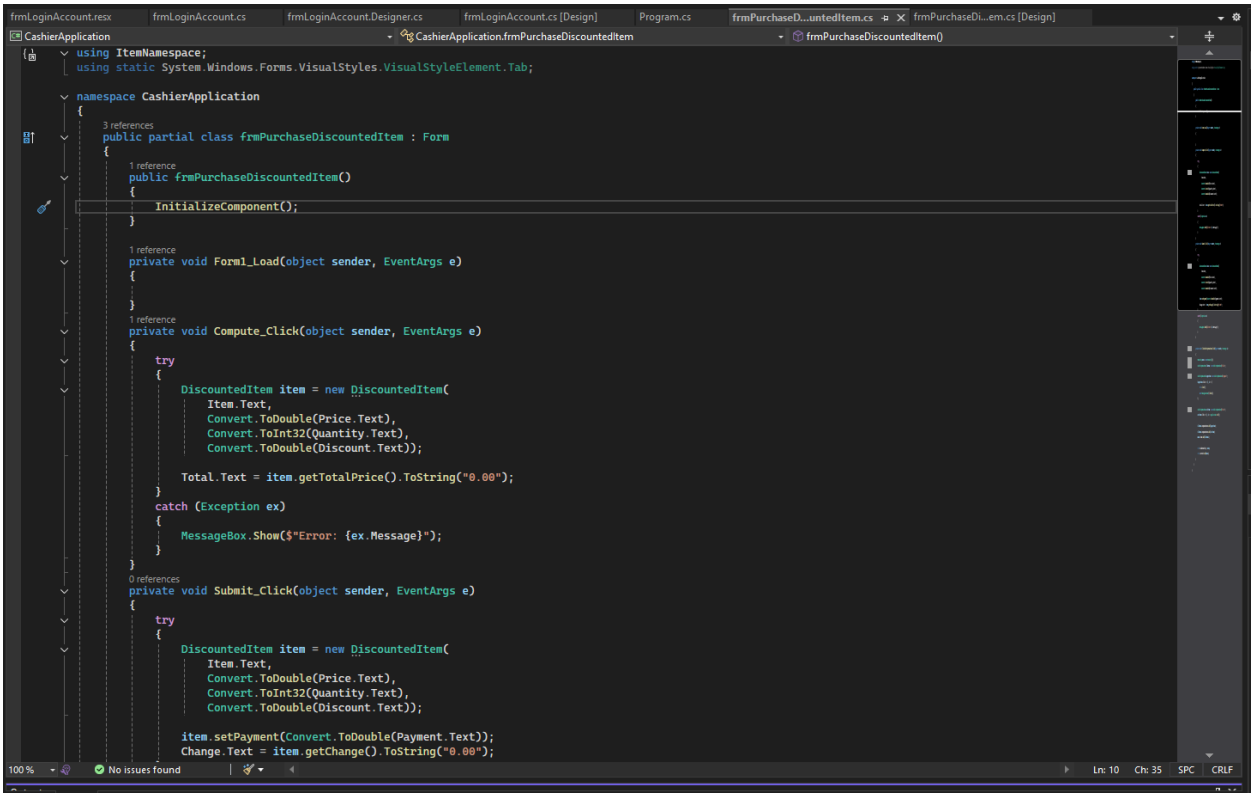


Screenshot of the output:

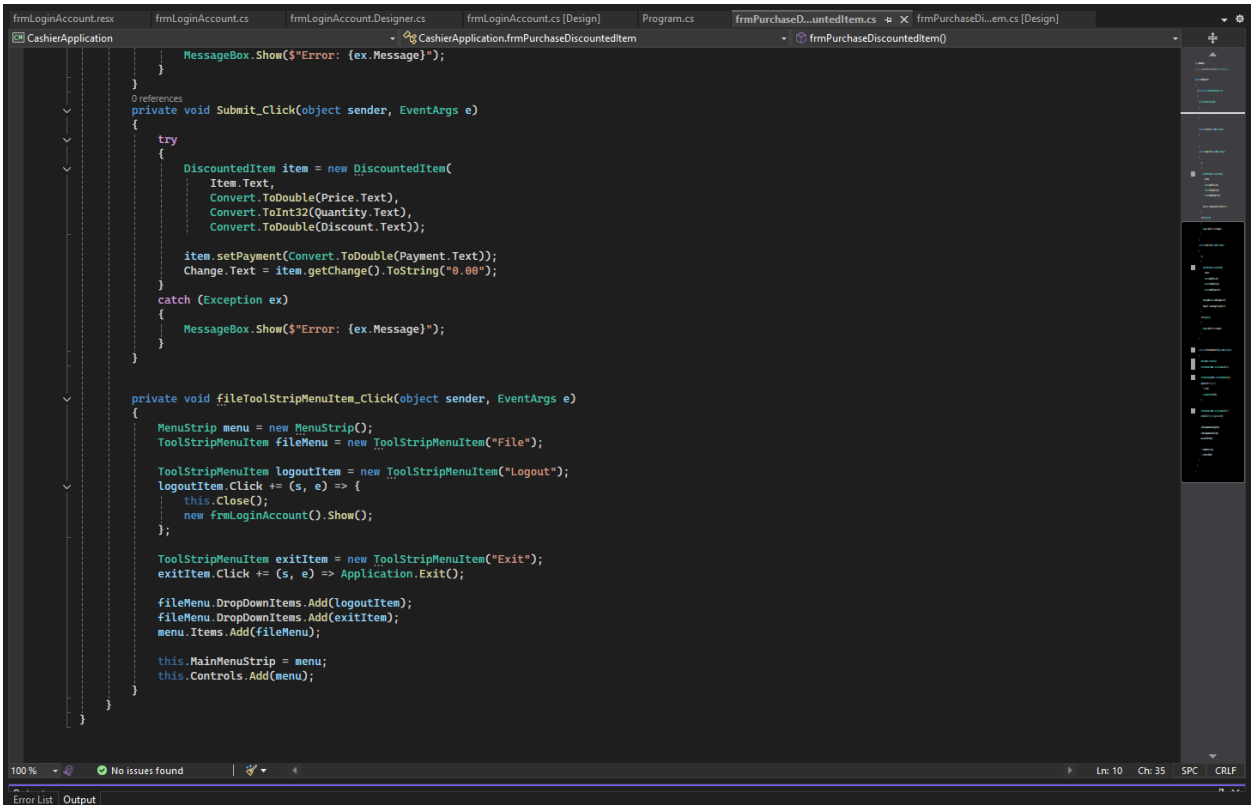




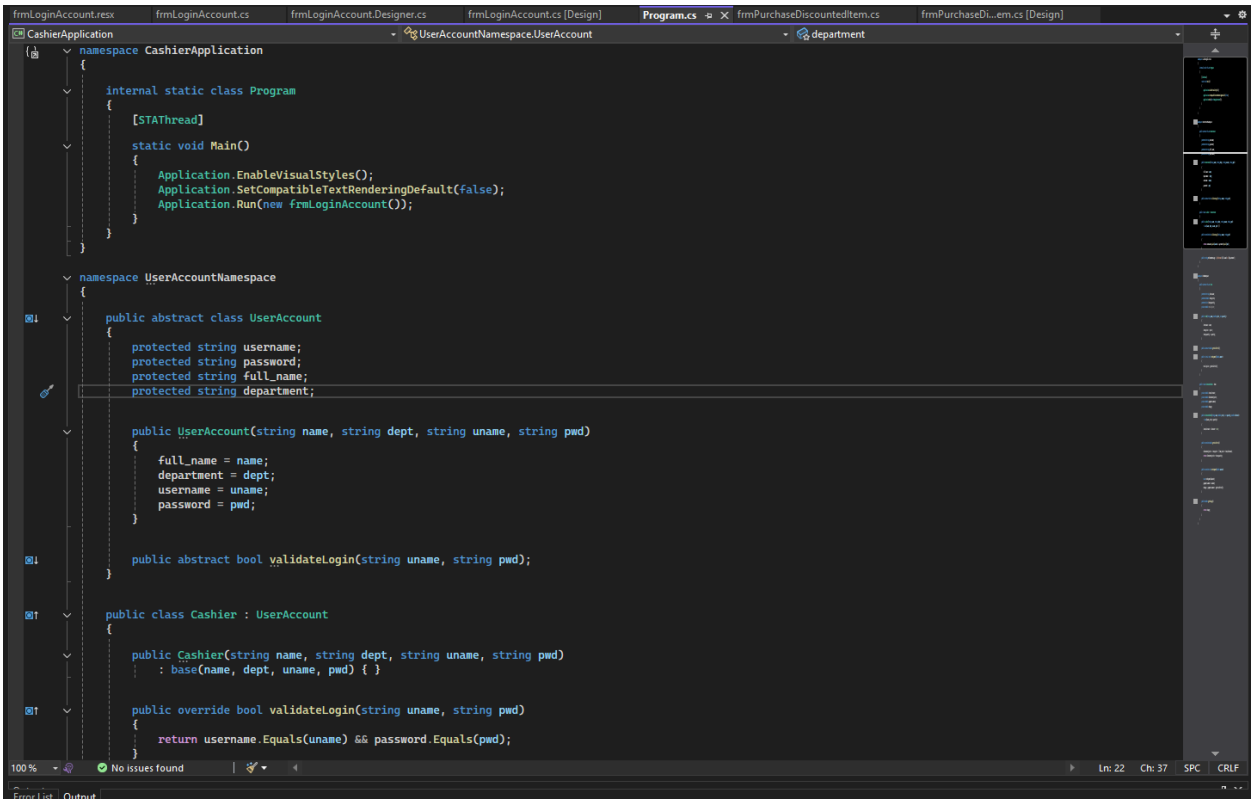
Screenshot of the code:



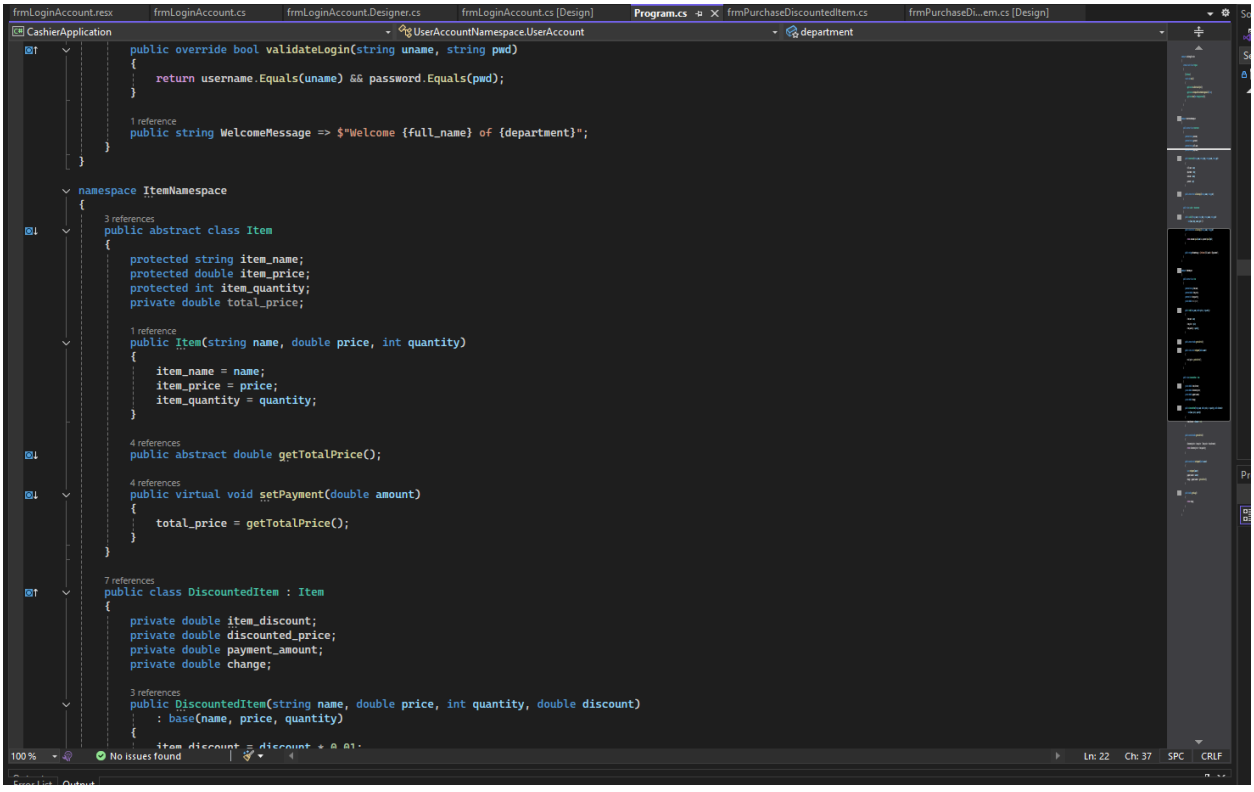
```
using ItemNamespace;
using static System.Windows.Forms.VisualStyles.VisualStyleElement.Tab;

namespace CashierApplication
{
    3 references
    public partial class frmPurchaseDiscountedItem : Form
    {
        1 reference
        public frmPurchaseDiscountedItem()
        {
            InitializeComponent();
        }

        1 reference
        private void Form1_Load(object sender, EventArgs e)
        {

        }
        1 reference
        private void Compute_Click(object sender, EventArgs e)
        {
            try
            {
                DiscountedItem item = new DiscountedItem(
                    Item.Text,
                    Convert.ToDouble(Price.Text),
                    Convert.ToInt32(Quantity.Text),
                    Convert.ToDouble(Discount.Text));

                Total.Text = item.getTotalPrice().ToString("0.00");
            }
            catch (Exception ex)
            {
                MessageBox.Show($"Error: {ex.Message}");
            }
        }
        0 references
        private void Submit_Click(object sender, EventArgs e)
        {
            try
            {
                DiscountedItem item = new DiscountedItem(
                    Item.Text,
                    Convert.ToDouble(Price.Text),
                    Convert.ToInt32(Quantity.Text),
                    Convert.ToDouble(Discount.Text));

                item.setPayment(Convert.ToDouble(Payment.Text));
                Change.Text = item.getChange().ToString("0.00");
```



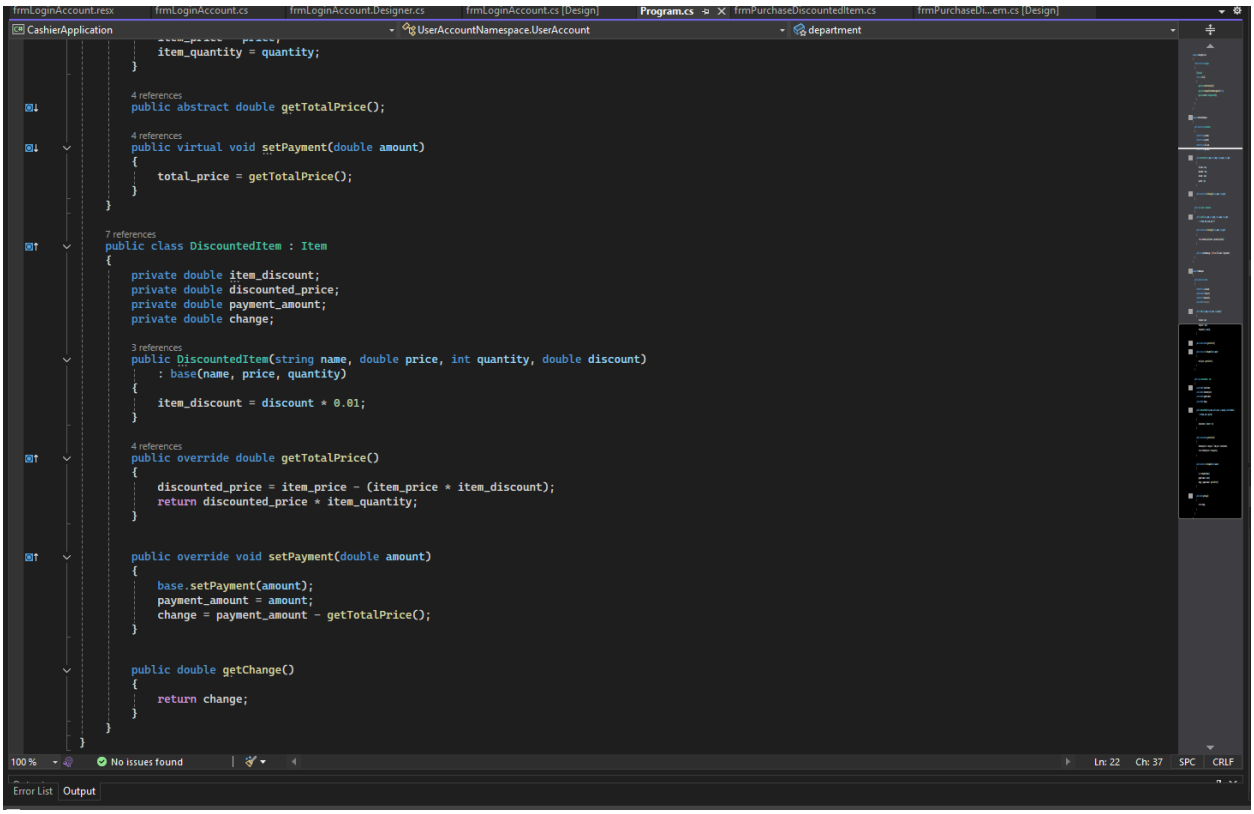
```
                MessageBox.Show($"Error: {ex.Message}");
            }
        }
        0 references
        private void Submit_Click(object sender, EventArgs e)
        {
            try
            {
                DiscountedItem item = new DiscountedItem(
                    Item.Text,
                    Convert.ToDouble(Price.Text),
                    Convert.ToInt32(Quantity.Text),
                    Convert.ToDouble(Discount.Text));

                item.setPayment(Convert.ToDouble(Payment.Text));
                Change.Text = item.getChange().ToString("0.00");
            }
            catch (Exception ex)
            {
                MessageBox.Show($"Error: {ex.Message}");
            }
        }


        private void fileToolStripMenuItem_Click(object sender, EventArgs e)
        {
            MenuStrip menu = new MenuStrip();
            ToolStripMenuItem fileMenu = new ToolStripMenuItem("File");

            ToolStripMenuItem logoutItem = new ToolStripMenuItem("Logout");
            logoutItem.Click += (s, e) => {
                this.Close();
                new frmLoginAccount().Show();
            };

            ToolStripMenuItem exitItem = new ToolStripMenuItem("Exit");
            exitItem.Click += (s, e) => Application.Exit();

            fileMenu.DropDownItems.Add(logoutItem);
            fileMenu.DropDownItems.Add(exitItem);
            menu.Items.Add(fileMenu);

            this.MainMenuStrip = menu;
            this.Controls.Add(menu);
        }
    }
}
```



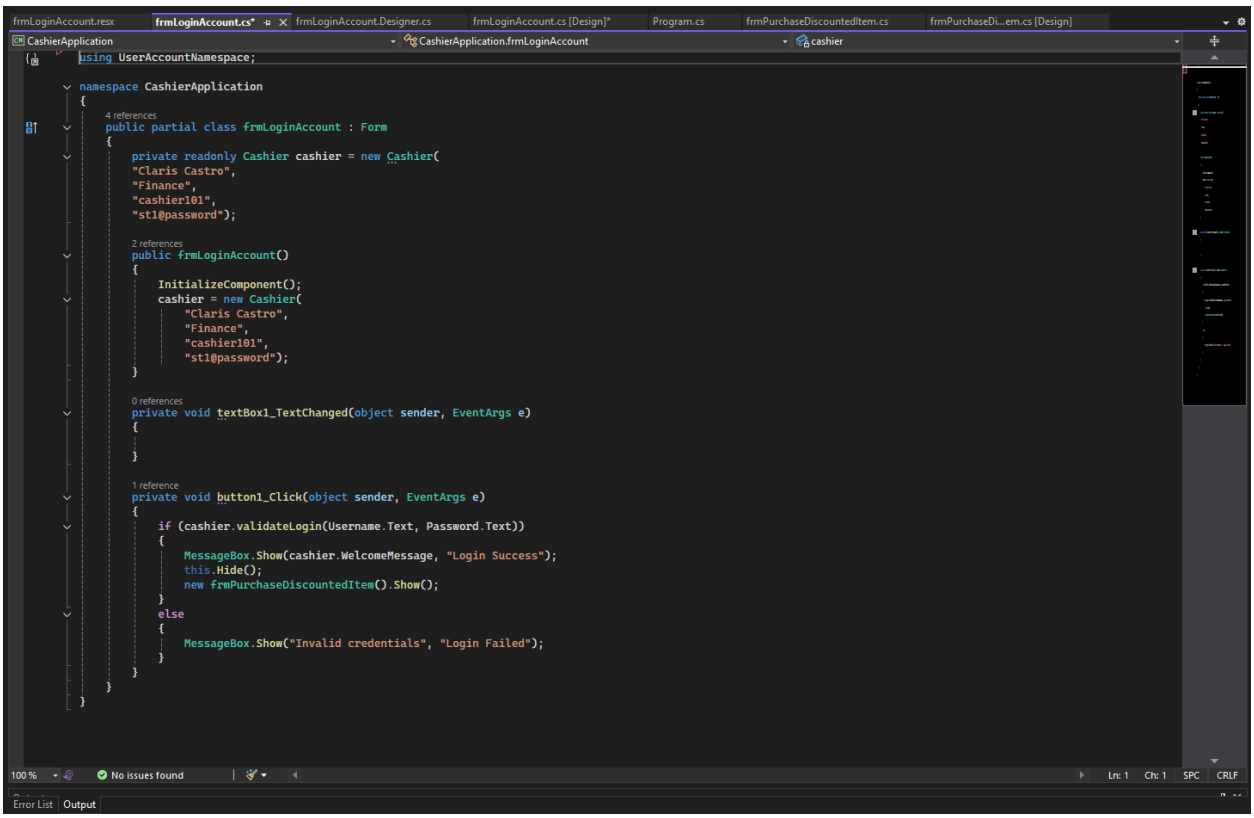
```
frmLoginAccount.resx | frmLoginAccount.cs | frmLoginAccount.Designer.cs | frmLoginAccount.cs [Design] | Program.cs | frmPurchaseDiscountedItem.cs | frmPurchaseDi...em.cs [Design]
CashierApplication | UserAccountNamespace.UserAccount | department

namespace CashierApplication
{
    internal static class Program
    {
        [STAThread]
        static void Main()
        {
            Application.EnableVisualStyles();
            Application.SetCompatibleTextRenderingDefault(false);
            Application.Run(new frmLoginAccount());
        }
    }
}

namespace UserAccountNamespace
{
    public abstract class UserAccount
    {
        protected string username;
        protected string password;
        protected string full_name;
        protected string department;

        public UserAccount(string name, string dept, string uname, string pwd)
        {
            full_name = name;
            department = dept;
            username = uname;
            password = pwd;
        }

        public abstract bool validateLogin(string uname, string pwd);
    }

    public class Cashier : UserAccount
    {
        public Cashier(string name, string dept, string uname, string pwd)
            : base(name, dept, uname, pwd) { }

        public override bool validateLogin(string uname, string pwd)
        {
            return username.Equals(uname) && password.Equals(pwd);
        }
```



```
frmLoginAccount.resx | frmLoginAccount.cs | frmLoginAccount.Designer.cs | frmLoginAccount.cs [Design] | Program.cs | frmPurchaseDiscountedItem.cs | frmPurchaseDi...em.cs [Design]
CashierApplication | UserAccountNamespace.UserAccount | department

        public override bool validateLogin(string uname, string pwd)
        {
            return username.Equals(uname) && password.Equals(pwd);
        }

        1 reference
        public string WelcomeMessage => $"Welcome {full_name} of {department}";
    }
}

namespace ItemNamespace
{
    3 references
    public abstract class Item
    {
        protected string item_name;
        protected double item_price;
        protected int item_quantity;
        private double total_price;

        1 reference
        public Item(string name, double price, int quantity)
        {
            item_name = name;
            item_price = price;
            item_quantity = quantity;
        }

        4 references
        public abstract double getTotalPrice();

        4 references
        public virtual void setPayment(double amount)
        {
            total_price = getTotalPrice();
        }
    }

    7 references
    public class DiscountedItem : Item
    {
        private double item_discount;
        private double discounted_price;
        private double payment_amount;
        private double change;

        3 references
        public DiscountedItem(string name, double price, int quantity, double discount)
            : base(name, price, quantity)
        {
            item_discount = discount * 0.01;
```



```
frmLoginAccount.resx | frmLoginAccount.cs | frmLoginAccount.Designer.cs | frmLoginAccount.cs [Design] | Program.cs | frmPurchaseDiscountedItem.cs | frmPurchaseDi...em.cs [Design]
CashierApplication | UserAccountNamespace.UserAccount | department

            item_quantity = quantity;
        }

        4 references
        public abstract double getTotalPrice();

        4 references
        public virtual void setPayment(double amount)
        {
            total_price = getTotalPrice();
        }
    }

    7 references
    public class DiscountedItem : Item
    {
        private double item_discount;
        private double discounted_price;
        private double payment_amount;
        private double change;

        3 references
        public DiscountedItem(string name, double price, int quantity, double discount)
            : base(name, price, quantity)
        {
            item_discount = discount * 0.01;
        }

        4 references
        public override double getTotalPrice()
        {
            discounted_price = item_price - (item_price * item_discount);
            return discounted_price * item_quantity;
        }


        public override void setPayment(double amount)
        {
            base.setPayment(amount);
            payment_amount = amount;
            change = payment_amount - getTotalPrice();
        }


        public double getChange()
        {
            return change;
        }
    }
}

100 %  No issues found  Ln: 22  Ch: 37  SPC  CRLF
Error List  Output
```



```
frmLoginAccount.resx | frmLoginAccount.cs* | frmLoginAccount.Designer.cs | frmLoginAccount.cs [Design]* | Program.cs | frmPurchaseDiscountedItem.cs | frmPurchaseDi...em.cs [Design]
CashierApplication | CashierApplication.frmLoginAccount | cashier

using UserAccountNamespace;

namespace CashierApplication
{
    4 references
    public partial class frmLoginAccount : Form
    {
        private readonly Cashier cashier = new Cashier(
        "Claris Castro",
        "Finance",
        "cashier101",
        "st1@password");

        2 references
        public frmLoginAccount()
        {
            InitializeComponent();
            cashier = new Cashier(
                "Claris Castro",
                "Finance",
                "cashier101",
                "st1@password");
        }

        0 references
        private void textBox1_TextChanged(object sender, EventArgs e)
        {

        }

        1 reference
        private void button1_Click(object sender, EventArgs e)
        {
            if (cashier.validateLogin(Username.Text, Password.Text))
            {
                MessageBox.Show(cashier.WelcomeMessage, "Login Success");
                this.Hide();
                new frmPurchaseDiscountedItem().Show();
            }
            else
            {
                MessageBox.Show("Invalid credentials", "Login Failed");
            }
        }
    }
}

100 %  No issues found  Ln: 1  Ch: 1  SPC  CRLF
Error List  Output
```

Source code:

Program.cs:

```
namespace CashierApplication
{
  internal static class Program
  {
    [STAThread]
    static void Main()
    {
      Application.EnableVisualStyles();
      Application.SetCompatibleTextRenderingDefault(false);
      Application.Run(new frmLoginAccount());
    }
  }
}

namespace UserAccountNamespace
{
  public abstract class UserAccount
  {
    protected string username;
    protected string password;
    protected string full_name;
    protected string department;

    public UserAccount(string name, string dept, string uname, string pwd)
```

```
        {
            full_name = name;
            department = dept;
            username = uname;
            password = pwd;
        }

        public abstract bool validateLogin(string uname, string pwd);
    }

    public class Cashier : UserAccount
    {
        public Cashier(string name, string dept, string uname, string pwd)
            : base(name, dept, uname, pwd) { }

        public override bool validateLogin(string uname, string pwd)
        {
            return username.Equals(uname) && password.Equals(pwd);
        }

        public string WelcomeMessage => $"Welcome {full_name} of {department}";
    }
}

namespace ItemNamespace
{
```

```
public abstract class Item
{
   protected string item_name;
   protected double item_price;
   protected int item_quantity;
   private double total_price;

   public Item(string name, double price, int quantity)
   {
      item_name = name;
      item_price = price;
      item_quantity = quantity;
   }

   public abstract double getTotalPrice();

   public virtual void setPayment(double amount)
   {
      total_price = getTotalPrice();
   }
}

public class DiscountedItem : Item
{
   private double item_discount;
   private double discounted_price;
```

```
private double payment_amount;
private double change;

public DiscountedItem(string name, double price, int quantity, double discount)
   : base(name, price, quantity)
{
   item_discount = discount * 0.01;
}

public override double getTotalPrice()
{
   discounted_price = item_price - (item_price * item_discount);
   return discounted_price * item_quantity;
}

public override void setPayment(double amount)
{
   base.setPayment(amount);
   payment_amount = amount;
   change = payment_amount - getTotalPrice();
}

public double getChange()
{
   return change;
}
```

```
  }
}
```

frmPurchaseDiscountedItem.cs:

```
using ItemNamespace;
using static System.Windows.Forms.VisualStyles.VisualStyleElement.Tab;

namespace CashierApplication
{
  public partial class frmPurchaseDiscountedItem : Form
  {
    public frmPurchaseDiscountedItem()
    {
      InitializeComponent();
    }

    private void Form1_Load(object sender, EventArgs e)
    {

    }
    private void Compute_Click(object sender, EventArgs e)
    {
      try
      {
        DiscountedItem item = new DiscountedItem(
          Item.Text,
          Convert.ToDouble(Price.Text),
```

```
            Convert.ToInt32(Quantity.Text),
            Convert.ToDouble(Discount.Text));

        Total.Text = item.getTotalPrice().ToString("0.00");
    }
    catch (Exception ex)
    {
        MessageBox.Show($"Error: {ex.Message}");
    }
}
private void Submit_Click(object sender, EventArgs e)
{
    try
    {
        DiscountedItem item = new DiscountedItem(
            Item.Text,
            Convert.ToDouble(Price.Text),
            Convert.ToInt32(Quantity.Text),
            Convert.ToDouble(Discount.Text));

        item.setPayment(Convert.ToDouble(Payment.Text));
        Change.Text = item.getChange().ToString("0.00");
    }
    catch (Exception ex)
    {
        MessageBox.Show($"Error: {ex.Message}");
```

```
        }
    }

    private void fileToolStripMenuItem_Click(object sender, EventArgs e)
    {
        MenuStrip menu = new MenuStrip();
        ToolStripMenuItem fileMenu = new ToolStripMenuItem("File");

        ToolStripMenuItem logoutItem = new ToolStripMenuItem("Logout");
        logoutItem.Click += (s, e) => {
            this.Close();
            new frmLoginAccount().Show();
        };

        ToolStripMenuItem exitItem = new ToolStripMenuItem("Exit");
        exitItem.Click += (s, e) => Application.Exit();

        fileMenu.DropDownItems.Add(logoutItem);
        fileMenu.DropDownItems.Add(exitItem);
        menu.Items.Add(fileMenu);

        this.MainMenuStrip = menu;
        this.Controls.Add(menu);
    }
  }
}
```

frmLoginAccount.cs:

```
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;
using UserAccountNamespace;

namespace CashierApplication
{
   public partial class frmLoginAccount : Form
   {
      private readonly Cashier cashier = new Cashier(
      "Claris Castro",
      "Finance",
      "cashier101",
      "st1@password");

      public frmLoginAccount()
      {
         InitializeComponent();
         cashier = new Cashier(
```

```
            "Claris Castro",
            "Finance",
            "cashier101",
            "st1@password");
        }

        private void textBox1_TextChanged(object sender, EventArgs e)
        {

        }

        private void button1_Click(object sender, EventArgs e)
        {
          if (cashier.validateLogin(Username.Text, Password.Text))
          {
            MessageBox.Show(cashier.WelcomeMessage, "Login Success");
            this.Hide();
            new frmPurchaseDiscountedItem().Show();
          }
          else
          {
            MessageBox.Show("Invalid credentials", "Login Failed");
          }
        }
    }
}
```