**Task No. 1: Draw State chart diagram of course enrolment.**

* **Product DLL:**

namespace lab5dll

{

    public class Product

    {

        public static List<Tuple<string, string, string>> list = new List<Tuple<string, string, string>>();

        public static List<Tuple<string, int>> products = new List<Tuple<string, int>>();

        static int counter = 0,pcounter=0;static bool flag = false;

        public int totalprice = 0;

        public int PCounter()

        {

            pcounter++;

            return pcounter;

        }

        public int Counter()

        {

            counter++;

            return counter;

        }

        public int Add(string name,int price)

        {

            products.Add(new Tuple<string, int>(name,price));

            totalprice += price;

            return PCounter();

        }

        public int login(string user,string pass)

        {

            if (!flag)

            { list.Add(new Tuple<string, string, string>("Abdul Mateen", "Admin", "310.4,320,348.8,336,352")); flag = true; }

            foreach (var element in list)

            {

                string a = element.Item3;

                string[] arr=a.Split(',');

                string data = "";

                for (int i = 0; i < arr.Length; i++)

                {

                    try

                    {

                        data += Convert.ToChar(Convert.ToInt32(arr[i].ToString())/3.2);

                    }

                    catch (Exception e) { }

                }

                if ((element.Item2 == user)&&(data==pass))

                    return 1;

            }

            return 0;

        }

        public int SignUp(string name,string user,string password)

        {

            if (!flag)

            { list.Add(new Tuple<string, string, string>("Abdul Mateen", "Admin", "310.4,320,348.8,336,352")); flag = true; }

            foreach (var element in list)

            {

                if (element.Item2 == user)

                    return 0;

            }

            string encrypted="";

            char[] arr = password.ToCharArray();

            foreach(char a in arr)

            {

                encrypted += (Convert.ToInt32(a).ToString())\*3.2;

                encrypted += ','.ToString();

            }

            password = encrypted;

            list.Add(new Tuple<string, string, string>(name,user,password));

            return 1;

}}}

* **Order Form:**

namespace lab5

{

    public partial class FinalProduct\_Form : Form

    {

        Product obj1 = new Product();

        public FinalProduct\_Form()

        {

            InitializeComponent();

            Counterlabel2.Text = obj1.Counter().ToString();

            dataGridView1.Columns[0].Width = 40;

            dataGridView1.Columns[1].Width = 140;

            dataGridView1.Columns[2].Width = 75;

            insert();

            dataGridView1.SelectionMode = DataGridViewSelectionMode.FullRowSelect;

            dataGridView1.MultiSelect = false;

            dataGridView1.RowPrePaint += new DataGridViewRowPrePaintEventHandler(dgv\_RowPrePaint);

        }

        int c = 1;

        void insert()

        {

            dataGridView1.Rows.Add(c++, "Pencil", 10);

            dataGridView1.Rows.Add(c++, "Plastic Scale", 10);

            dataGridView1.Rows.Add(c++, "Metal Scale", 20);

            dataGridView1.Rows.Add(c++, "Wood Scale", 15);

            dataGridView1.Rows.Add(c++, "Eraser", 10);

            dataGridView1.Rows.Add(c++, "Sharpner", 5);

            dataGridView1.Rows.Add(c++, "Small Copy", 20);

            dataGridView1.Rows.Add(c++, "Medium Copy", 30);

            dataGridView1.Rows.Add(c++, "Ruff Register", 70);

            dataGridView1.Rows.Add(c++, "Fair NoteBook", 150);

        }

        private void dgv\_RowPrePaint(object sender, DataGridViewRowPrePaintEventArgs e)

        {

            e.PaintParts &= ~DataGridViewPaintParts.Focus;

        }

        private void Orderbutton1\_Click(object sender, EventArgs e)

        {

            MessageBox.Show("Order Placed Successfully!", "Lab 5", MessageBoxButtons.OK, MessageBoxIcon.Information);

            this.Close();

        }

        void insertp()

        {

            Pricelabel3.Text = obj1.totalprice.ToString();

            SProducttextBox1.Text = "";

            foreach (var element in Product.products)

            {

                string a = element.Item1;

                SProducttextBox1.Text += "" + a + Environment.NewLine;

            }

        }

        private void dataGridView1\_DoubleClick(object sender, EventArgs e)

        {

            Productlabel.Text=obj1.Add(dataGridView1.Rows[dataGridView1.CurrentRow.Index].Cells[1].Value.ToString(),Convert.ToInt32(dataGridView1.Rows[dataGridView1.CurrentRow.Index].Cells[2].Value)).ToString();

            insertp();

}}}

* **Signup Form:**

namespace lab5

{

    public partial class SignUp : Form

    {

        public SignUp()

        {

            InitializeComponent();

        }

        private void logbutton1\_Click(object sender, EventArgs e)

        {

            int check = 0;

            if (Spass1textBox2.Text == SConfirmtextBox1.Text)

            {

                Product obj = new Product();

                check = obj.SignUp(SNametextBox2.Text, SUsertextBox1.Text, Spass1textBox2.Text);

                this.Hide();

                LogINForm obj1 = new LogINForm();

                obj1.Show();

                if(check==0)

                MessageBox.Show("UserName Alredy Taken Try Different", "Lab5", MessageBoxButtons.OK, MessageBoxIcon.Error);

                else

                    MessageBox.Show("Account Created SuccessFully!", "Lab5", MessageBoxButtons.OK, MessageBoxIcon.Information);

            }

            else

                MessageBox.Show("Password Not Match Please Retype it", "Lab5", MessageBoxButtons.OK, MessageBoxIcon.Error);

}}}

* **Login Form:**

namespace lab5

{

    public partial class LogINForm : Form

    {

        public LogINForm()

        {

            InitializeComponent();

            regbutton2.Text = "Not Registerd Yet" + Environment.NewLine + " Sign Up";

        }

        private void button1\_Click(object sender, EventArgs e)

        {

            int check = 0;

            Product obj1 = new Product();

            check=obj1.login(usertextBox1.Text, passtextBox2.Text);

            if (check == 0)

                MessageBox.Show("Password And UserName Is In Correct", "Lab5", MessageBoxButtons.OK, MessageBoxIcon.Error);

            else

            {

                FinalProduct\_Form obj = new FinalProduct\_Form();

                obj.Show();

                MessageBox.Show("Login SuccessFully!", "Lab5", MessageBoxButtons.OK, MessageBoxIcon.Information);

            }

        }

        private void regbutton2\_Click(object sender, EventArgs e)

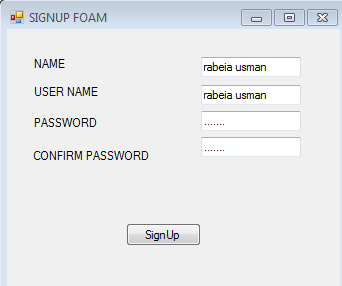
        {

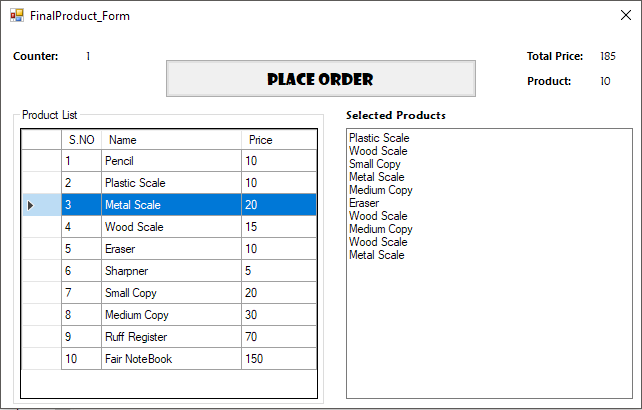
            this.Hide();

            SignUp obj = new SignUp();

            obj.Show();

}}}

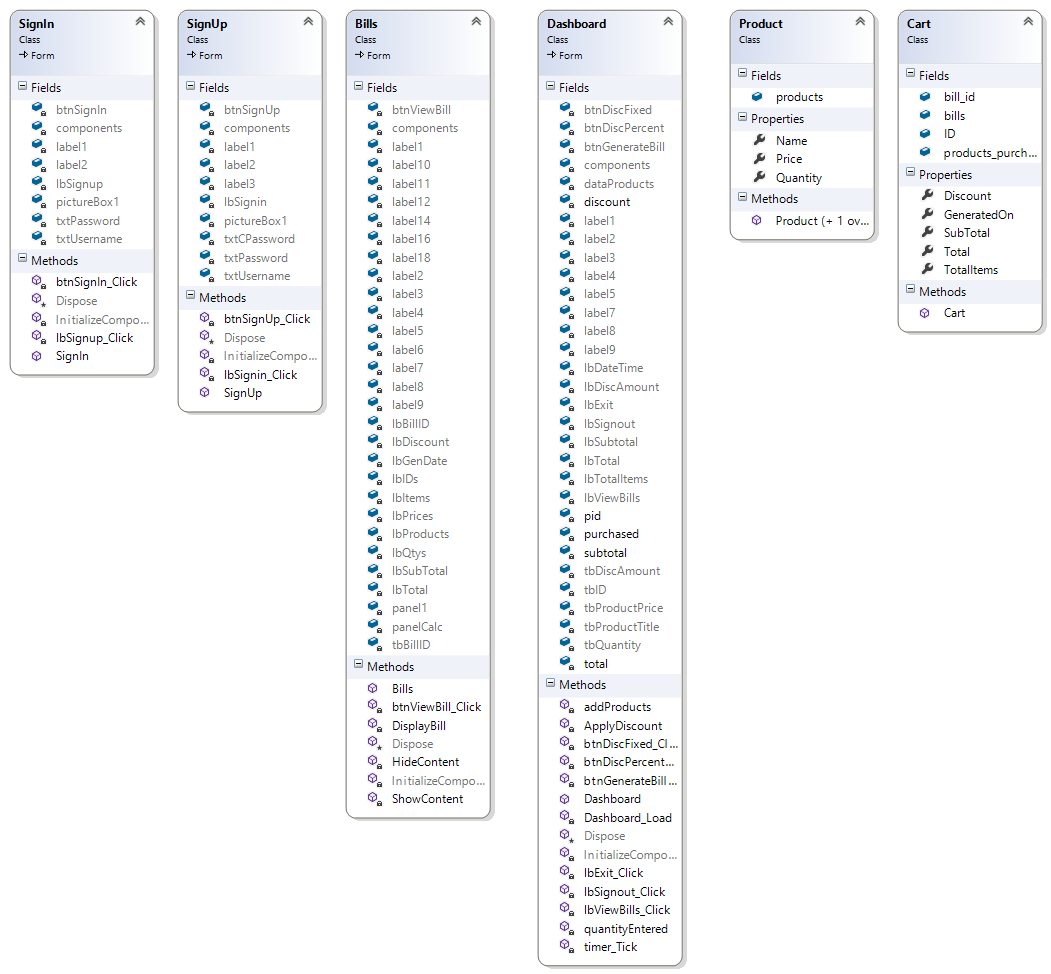
** **



**CLASS DIAGRAM:**

***DESCRIPTION:***

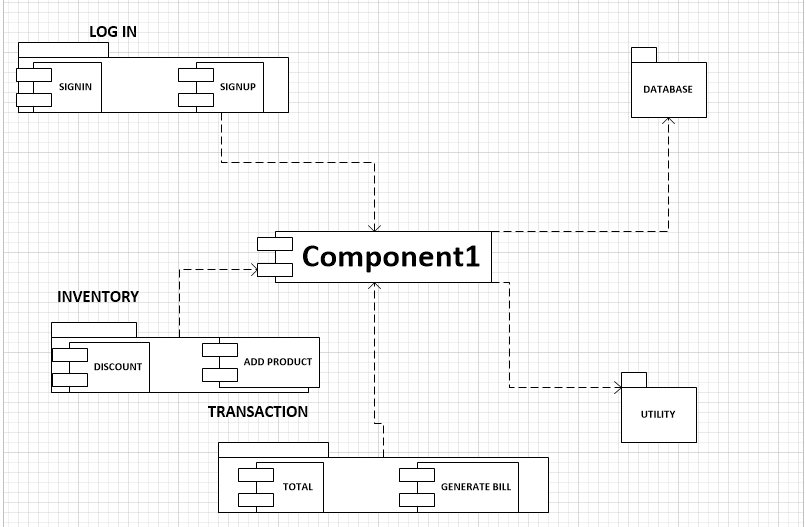
### The following class diagram shows the system classes and their attributes and methods ,the following diagram consist of six classes sign in, signup, cart ,dashboard, bills, products which further consist of different and many attribute



**COMPONENT DIAGRAM:**

### *DESCRIPTION:*

### It describes the functionality of components it doesn’t show any attributes instead it help us to understand models by the help of different components



**OBJECT DIAGRAM:**

### DESCRIPTION:

### In the following object digram the user will either sign up or sign in then after signing in user can purchase a product from cart and will get total/discount from dashboard and then pay the bill.

