

# Bad and Good Examples



Bad Example: Login

```
PointofSale - Program.cs
Program.cs 💠 🗙
C# PointofSale
                                                      - 🤏 PointofSale.Program
                 public static int signin()
                      MUserUI. TakeInputWithoutRole();
                      for(int i=0; i< MUserDL.usersList.Count; i++)</pre>
                          if (MUserDL.usersList[i].getuserName() == MUserUI.userName && MUserDL.usersList[i].getuserPassword() == MUserUI.userPassword)
                               if (MUserDL.usersList[i].getuserRole() == "manager")
                                   return 1;
                               if (MUserDL.usersList[i].getuserRole() == "customer")
                                   return 2;
                               else
                                   return 3;
                      return 0;
    186
         No issues found
                                                                                                                                                Ln: 186 Ch: 6 SPC CRLF
      Type here to search
```

### Bad Example: Little Better

```
public static MUser getReference()
   MUser obj = MUserUI.getInfo();
    foreach (MUser i in MUserD.User)
       if (obj.username == i.username && obj.password == i.password)
           obj = i;
           return obj;
   obj = null;
    return obj;
```

### Bad Example

```
PointofSale - Program.cs
Program.cs + X
C# PointofSale
                                                     - NointofSale.Program
                public static int signin()
                      MUserUI.TakeInputWithoutRole();
                      for(int i=0; i< MUserDL.usersList.Count; i++)</pre>
                          if (MUserDL.usersList[i].getuserName() == MUserUI.userName && MUserDL.usersList[i].getuserPassword() == MUserUI.userPassword)
                              if (MUserDL.usersList[i].getuserRole() == "manager")
                                   return 1;
                              if (MUserDL.usersList[i].getuserRole() == "customer")
                                   return 2;
                                   return 3;
                      return 0;
   186

❷ No issues found

                                                                                                                                               Ln: 186 Ch: 6 SPC CRLF
      Type here to search
```

### Bad Example

```
public static void productloBuy()
    Console.WriteLine("Enter the no of products you want to buy:
    int n = int.Parse(Console.ReadLine());
    Console.WriteLine("Enter products name:");
   for (int i = 0; i < n; i++)
        string name = Console.ReadLine();
        if (Customer.buyProduct(name))
            Console.WriteLine("You Bought the product");
            CustomerDL.StoreInFile(BuyProductPath, name);
        else
            Console.WriteLine("Not Available");
```

### Bad Example

```
public static bool buyProduct(string name)
    foreach (product p in productDL.ProductList)
        if (name == p.getName())
            int q = p.getAQuantity();
            q= q - 1;
            CustomerDL.BuyProduct.Add(name);
            return true;
   return false;
```

# Better but What's Wrong with it

```
else if (customerOp == "2")
{
    ProductUI.viewCustomerProduct(ProductD.storeProducts);
    CustomerUI.buyProduct(cust);
}
```

# Good Example

```
MUser User = MUserUI.SignIn();
if (MUserDL.IsUserExists(User))
    Console.WriteLine("User Found..");
    User = MUserDL.GetUser(User.GetUserName(), User.GetUserPassword());
    if (User.IsAdmin())
        AdminMenu execution();
    else
        Customer Cust = CustomerDL.GetCustomer(User.GetUserName());
        CustMenu execution(Cust);
```

# Good Example

```
MUser User = MUserUI.SignIn();
if (MUserDL.IsUserExists(User))
    Console.WriteLine("User Found..");
    User = MUserDL.GetUser(User.GetUserName(), User.GetUserPassword());
    if (User.IsAdmin())
        AdminMenu execution();
    else
        Customer Cust = CustomerDL.GetCustomer(User.GetUserName());
        CustMenu execution(Cust);
```

# How to improve following code.

```
MUser User = MUserUI.SignIn();
if (MUserDL.IsUserExists(User))
    Console.WriteLine("User Found..");
    User = MUserDL.GetUser(User.GetUserName(), User.GetUserPassword());
    if (User.IsAdmin())
        AdminMenu execution();
    else
        Customer Cust = CustomerDL.GetCustomer(User.GetUserName());
        CustMenu execution(Cust);
```

Do not access Attributed Directly

```
M File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search (Ctrl+Q).
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                                                                                                                                                        Live Share 京
 O - 20 🖆 🕍 🛂 Pebug - Any CPU - ▶ Start - 🛤 🗟 _ 🖆 幅 準 📜 _
  ClassDiagram1.cd
                     mUserDL.cs
                                    productBLcs
                                                                  CustomerBLcs
                                                                                  CustomerUl.cs
                                                                                                  mUserBLcs
                                                                                                                mUserULcs
                                                                                                                              Program.cs + x productDL.cs
                                                                                                                                                                 - 0

☐ customer

    Customer.Program

                                        option = auminmenu();
                                    else if (check == 2)
                                        Console.Clear();
                                        logo();
                                        option1 = customerMenu();
                                while (true)
                                    if (option == "1")
                                        Console.Clear();
                                        logo();
                                        productDL.p.Add(productUI.add());
                                        Console.WriteLine("press any key to continue : ");
                                        Console.ReadKey();
                                        Console.Clear();
                                        logo();
                                        option = adminMenu();
                                    else if (option == "2")
                                        Console.Clear();
                                        logo();
                                        productBL.viewProduct(productDL.p);
                                        Console.WriteLine("press any key to continue : ");
                                        Console.ReadKev();
                                        Console.Clear();
  137 % - O No issues found
                                                                                                                                                  Ln: 218 Ch: 1 SPC CRLF
7 Ready
```

#### Use of UI in DL

```
class userCrud
    static public List<user> login = new List<user>();
   1 reference
    static public user sign_in()
       user data = userUI.takeinput();
       foreach (user i in login)
           if ((i.userName == data.userName) && (i.userPass == data.userPass)
                return i;
        return null;
```

#### Function of DL Class or BL

```
op = MUserUI.login();
if (op == 1)
    MUser m = MUserUI.signIn():
    m=MUserDL.isAdmin(m);
    if (m == null)
        MUserUI.invalid();
    else if (m.role == "admin")
         do
            op = MUserUI.adminMenu();
             if(op == 1)
                Product p = ProductUI.AddProduct();
                ProductDL.addProductIntoList(p);
                ProductDL.storeintoFile(path2, p);
             else if(op == 2)
                ProductUI.PrintProductsList(ProductDL.products);
```

# Loading Data From the File: Bad Example

```
if(productDL.readFromFile())
            Console.WriteLine("File Found");
      if(MUserDL.readFromFile())
            Console.WriteLine("File Found");
```

# Loading Data From the File: Bad Example

```
if(productDL.readFromFile())
            Console.WriteLine("File Found");
      if(MUserDL.readFromFile())
            Console.WriteLine("File Found");
```

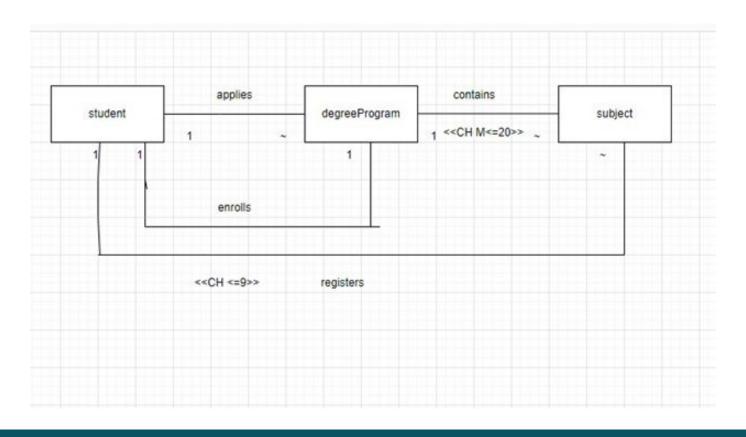
Student is initializing the file path inside the function. Will have to go to the function to change the file path.

Also writing on the Console in the main function

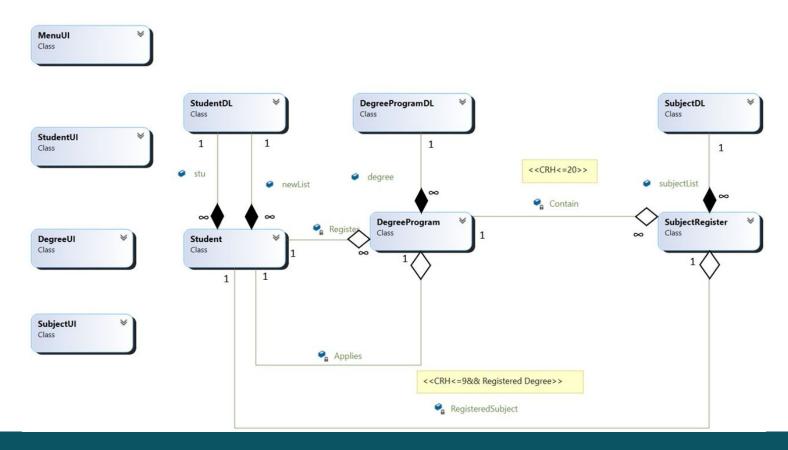
# Loading Data From the File: Good Example

```
string user path = "credentials.txt";
string product path = "products.txt";
if(productDL.readFromFile(product path))
            menuUI.message();
      if(MUserDL.readFromFile(user path))
            menuUI.message();
```

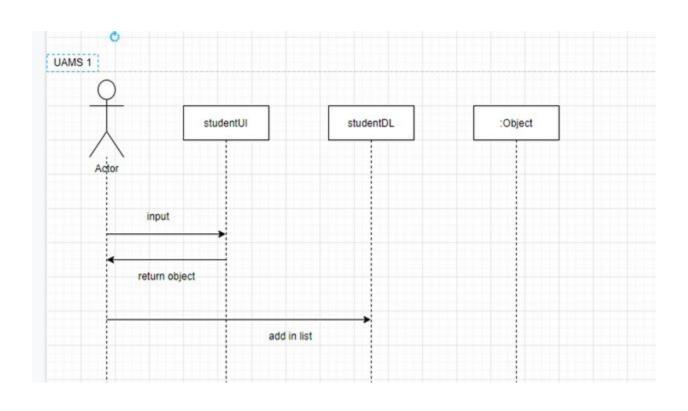
#### Domain Model: Bad Example



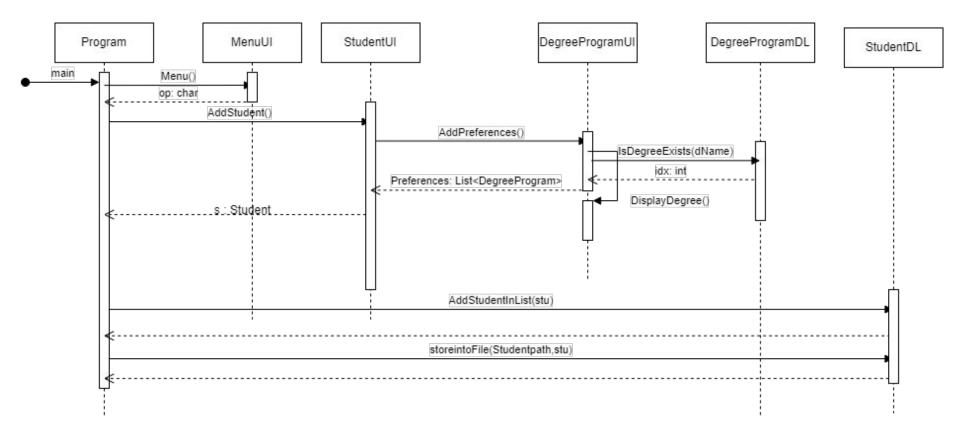
#### Domain Model: Good Example



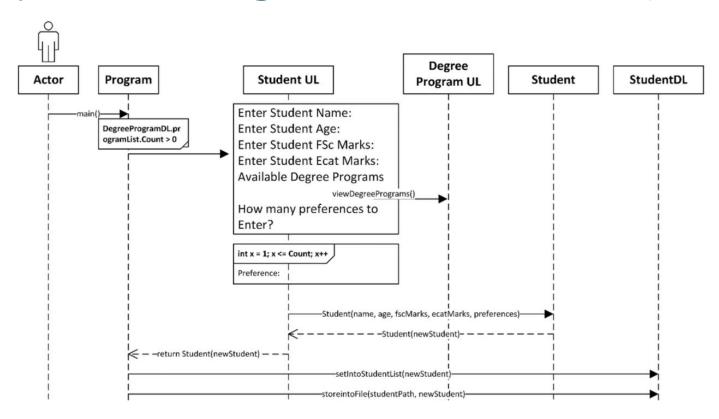
# Sequence Diagram: Bad Example



### Sequence Diagram: Good Example



### Sequence Diagram: Good Example



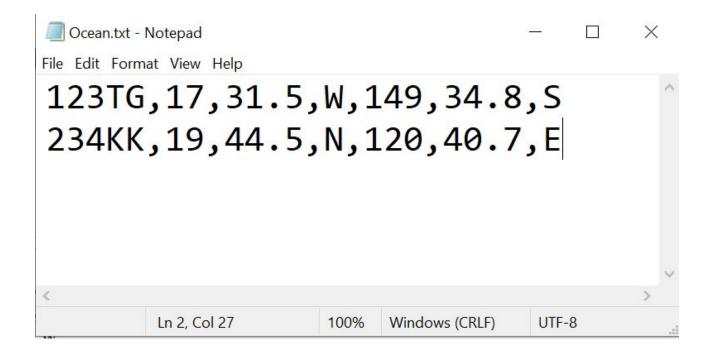
# Usage of Static Functions: Bad Example

```
else if (option == 2)
         degreeProgramUI degreeInterface = new degreeProgramUI();
         degreeProgramDL degreeDataLayer = new degreeProgramDL();
         degreeProgram d = degreeInterface.takeInputForDegree();
         degreeDataLayer.addDegreeIntoList(d);
         degreeDataLayer.storeIntoFile(degreePath, d);
```

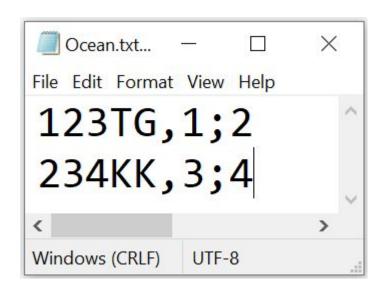
# Usage of Static Functions: Good Example

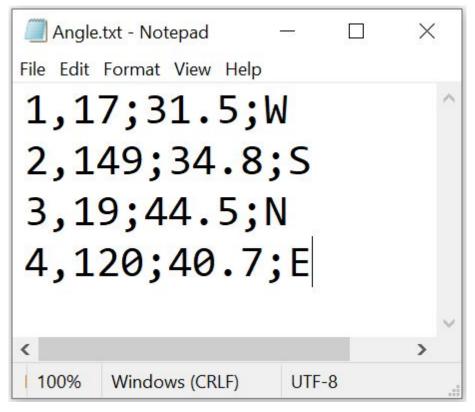
```
else if (option == 2)
{
          degreeProgram d = degreeProgramUI.takeInputForDegree();
          degreeProgramDL.addDegreeIntoList(d);
          degreeProgramDL.storeIntoFile(degreePath, d);
}
```

### Object Relational Mapping: Bad Example



### Object Relational Mapping: Good Example





### Weak Concepts: Separation of Layer

- Main (Driver) should control the communication.
- Make the UI and DL should not call each other that should return the BL object to the main method and main method pass it to other layers.
- This is very important to maintain consistency.

### Weak Concepts: Why we use Static

- When we want to share attribute among all objects, then we use static keyword before the attributes and the functions using that attribute.
- Instead of calling the public static function by creating the object, we call it with the class name.

#### Weak Concepts: Association

