

Object-Oriented Programming (100PG)

Tutorial 1c: Derived class

(1 hr)

- 1a) Given the class People below, derived a **Customer** class from People. Customer class has a private string variable **strMember**. Show the constructor for Customer who needs to initialize strMember and pass a parameter to the base.

```
class People
{
    private string strName;
    public People(string name )
    {
        strName = name;
    }
}
```

- 1b) Derived a class **Sp** from Customer. Sp has a private float variable fltDeposit. Show the constructor for Sp who needs to initialize fltDeposit and pass parameters to the base.

2. If the People class in Q1a has a **public** property **Name** and **Password** and the derived class Customer has two arrays shown:

```
public string[] CustNames = {"John", "Marry ", "Nicole", "Mee Mee", "Yu"};
private string[] custPswd={ "abc", "123", "lovely", "lovemee", "loveyu"};
```

Write a public method **GetPswd()** that **returns** and **sets** the Password for Name. Note, derived class **can** access public property of base class directly. If the name is not found return **"name not found"**. Input parameter: none.
Return: string password

3. If the People class in Q1a has a **public** property **Name** and **Password** and the derived class **Sp** has two arrays shown. Sp is derived from Customer which is derived from People.

```
public string[] AdminNames = {"John", "Marry ", "Nicole", "Mee Mee", "Yu"};  
private string[] AdminPswd={ "abc", "123", "lovely", "lovemee", "loveyu"};
```

Write a public method **SetAdmin()** that **sets** the public property Member of Customer to 'Admin' if the Name and Password match AdminNames and AdminPswd respectively. Note, derived class **can** access public property of base class directly. Input parameter: none. Return: none.

- 4 If the People class in Q1a has a method CalTotal() as shown, write a method with same definition in Customer class to provide a discount, intDisc for itemcost.

```

class People
{
    private float fltTotalCost;
    private int intQty;

    public virtual void CalCost(float itemcost)
    {
        fltTotalCost = fltTotalCost + intQty * itemcost;
    }
}

Class Customer : People
{
    private int intDisc;

}

```

5a Explain the differences in static variable and instance variable.

5b In the class Customer, declare a static variable NumOfCust. And increase this variable in the loginButton_Click() event and display it on **NumLabel**.

```

class Customer {

}

```

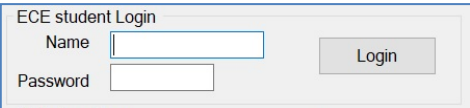
inside Form1

```

private void loginButton_Click(object sender, EventArgs e)
{

}

```



The screenshot shows a simple login form with a title bar that says 'ECE student Login'. Inside the form, there are two text boxes: one labeled 'Name' and another labeled 'Password'. To the right of these text boxes is a button labeled 'Login'.