DAY 17 : Assignment
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Assignment 1

Research and write about what is an assembly in C# ?

Answer :

- **An Assembly is essentially a building block of .NET framework.**
- **It is an independent smallest unit of code.**
- **It is usually an .exe or .dll file.**

Assemblies are of 3 types :

- **Private assembly**
- **Shared assembly**
- **Satellite assembly**

Private assembly :

- **This assembly is normally used by a single application only and is stored in the application's directory.**
- **Everytime a private assembly is used, it exclusively copies into the bin folder of that application folder.**

Shared assembly :

- **This assembly is normally used by multiple applications and is stored in the Global Assembly Cache (GAC) which is a primary repo for assemblies.**
- **Everytime a shared assembly is used, it does not require it to be copied into all application folders. It is also called Public assembly.**

Assignment 2

Write all the access modifiers in a tabular format and explain them with an illustrative example code.

Answer :

Access Modifiers Table :

Assembly :	Within Assembly			Other Assembly	
Class :	Within Class	Derived Class	Other Class	Derived Class	Other Class
Public	Yes	Yes	Yes	Yes	Yes
Private	Yes	No	No	No	No
Protected	Yes	Yes	No	Yes	No
Internal	Yes	Yes	Yes	No	No
Protected Internal	Yes	Yes	Yes	Yes	No

Code :

VD_Library (MyBaseClass) :

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace VD_Library
{
    public class MyBaseClass
    {
        public int a;
        private int b;
        protected int c;
        internal int d;
        protected internal int e;
```

```
    public void MyBaseClassMethod()
    {
        a = 3;
        b = 6;
        c = 9;
        d = 12;
        e = 15;
    }
}
public class MyDerivedClass : MyBaseClass
{
    public void MyDerivedClassMethod()
    {
        a = 5;
        //b = 10;          //cannot access
        c = 15;
        d = 20;
       //e = 25;          //cannot access
    }
}
public class MyOtherClass
{
    public void MyOtherClassMethod()
    {
        MyBaseClass mbc = new MyBaseClass();
        mbc.a = 4;
        //mbc.b = 8;          //cannot access
        //mbc.c = 12;          //cannot access
        mbc.d = 16;
        //mbc.e = 20;          //cannot access

    }
}
}
```

Public_Library (MyPublicLibraryDerivedClass) :

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

using VD_Library;

namespace Public_Library
{
    public class MyPublicLibraryDerivedClass : MyBaseClass
    {
        public void MyPublicLibraryDerviedClassMethod()
        {
            a = 2;
            //b = 4;        //cannot access
            c = 6;
            //d = 8;        //cannot access
            e = 10;
        }
    }
    public class MyPublicLibraryOtherClass
    {
        public void MyPublicLibraryOtherClassMethod()
        {
            MyBaseClass mbc = new MyBaseClass();

            mbc.a = 6;
            //mbc.b = 12;         //cannot access
            //mbc.c = 18;         //cannot access
            //mbc.d = 24;         //cannot access
            //mbc.e = 30;         //cannot access


        }
    }
}
```