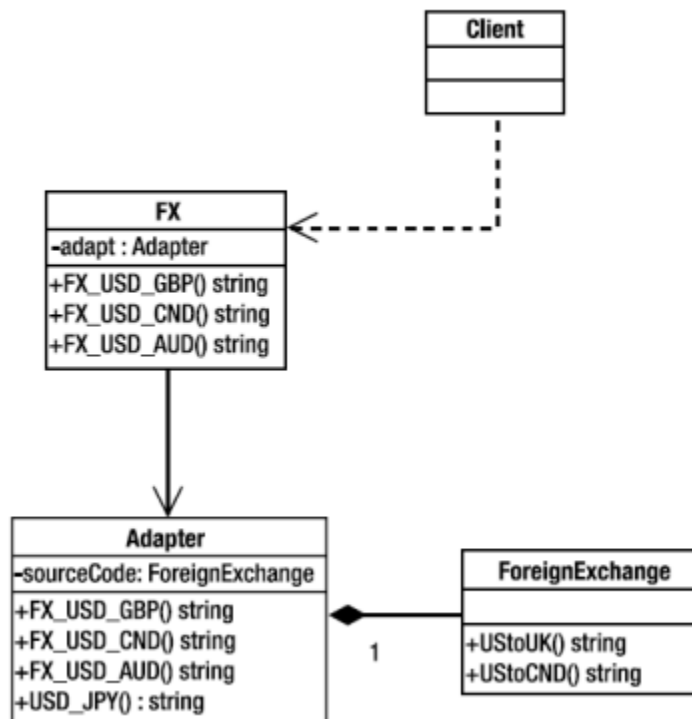**BAHRIA UNIVERSITY (KARACHI CAMPUS)**
Software Design & Architecture (SEN-221)
ASSIGNMENT #2 – Spring 2023
Based on: CLO-3

Class: **BSE-4B**   Submission Deadline: **07th April 23**

Course Instructor: **ENGR. MAJID KALEEM**   Max Marks: **04**

1. Designing software applications is a serious job which requires experience and expertise. Suppose you start your professional software engineering career as a developer and you are given the following designs by your senior team member. Your task is to convert the following designs into code (produce code in C Sharp). Please write the code in Visual Studio.

   (a)

```csharp
namespace ASSIGNMENT_02_AHSAN
{
    class Client
    {
        static void Main(string[] args)
        {
            FX fx = new FX();
            fx.FX_USD_GBP();

        }
    }
```

class FX

```csharp
    class FX {
        private  Adapter adapt = new Adapter();

        public FX()
        {

        }

        public string FX_USD_GBP()
        {
            return "";
        }
        public string FX_USD_CND()
        {
            return "";
        }
        public string FX_USD_AUD()
        {
            return "";
        }

    }
```

class Adapter

```csharp
    class Adapter
    {
       private ForeignExchange sourceCode;

        public Adapter()
        {
            sourceCode = new ForeignExchange();
        }
        public string FX_USD_GBP()
        {
            return "";
        }
        public string FX_USD_CND()
        {
            return "";
        }
        public string FX_USD_AUD()
```
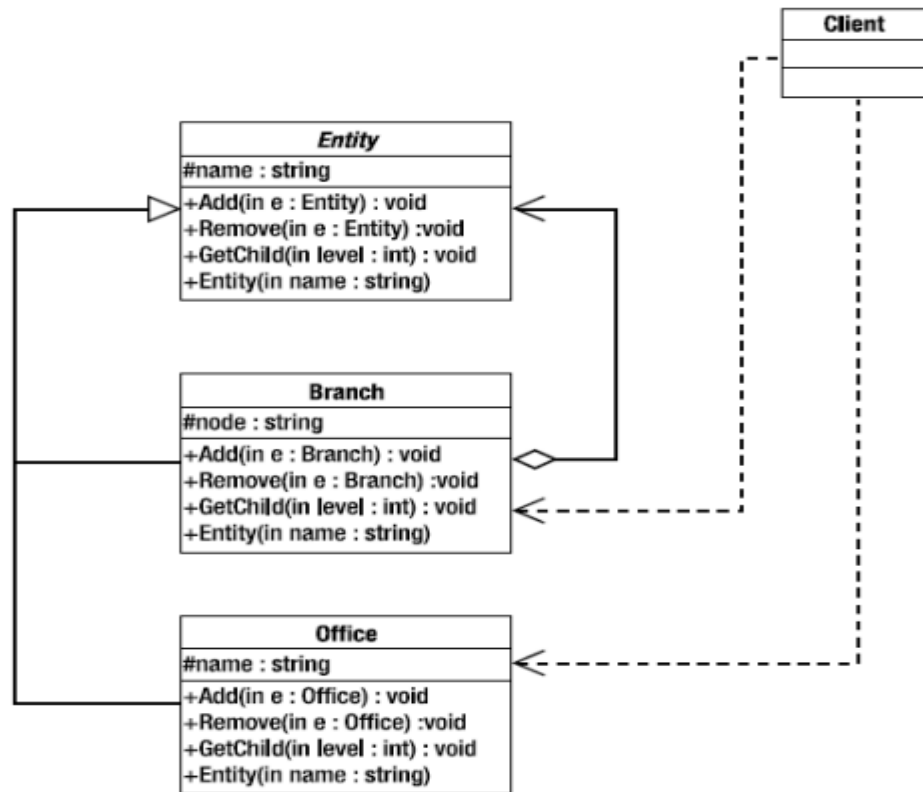
```
        {
            return "";
        }
        public string USD_JYP()
        {
            return "";
        }


    }
```

class ForeignExchange

```
    class ForeignExchange
    {
        public ForeignExchange()
        {
        }
        public string UStoUK()
        {
            return "";
        }
        public string UStoCND()
        {
            return "";
        }

    }

}
```

(b)

CODE

```
namespace ASSIGNMENT_02_AHSAN
{
    class Program
    {
        static void Main(string[] args)
        {
            Entity branch = new Branch("SADAYAY");
            branch.Add(branch);
        }
    }
```

class Client

```
class Client
    {
        Office office;
        Branch branch;
        public void Create_Office()
        {
            office = new Office();
        }
        public void Create_Branch(string name)
        {
            branch = new Branch(name);
        }
    }
```

class Entity

```csharp
public abstract class Entity
    {
        protected string name;

        public abstract void Add(Entity in_e);

        public abstract void Remove(Entity in_e);

        public abstract void GetChild(int in_level);

        public abstract void _Entity(string in_name);

    }
```

class Branch

```csharp
class Branch : Entity
    {
        protected string node;
        Entity ent;
        public Branch(Entity ent)
        { }
        public Branch(string name)
        {
            this.name = name;
        }
        public void Add(Branch in_e)
        {
        }
        public override void Add(Entity in_e)
        {
        }
        public void Remove(Branch in_e)
        {
        }
        public override void Remove(Entity in_e)
        {

        }
        public override void GetChild(int in_level)
        {
        }
        public override void _Entity(string in_name)
        {
        }
    }
```

class Office

```csharp
class Office : Entity
    {
        protected  string name;

        public void Add(Office in_e)
```

```csharp
        {
        }
        public override void Add(Entity in_e)
        {
        }
        public void Remove(Office in_e)
        {
        }
        public override void Remove(Entity in_e)
        {

        }
        public override void GetChild(int in_level)
        {
        }
        public override void _Entity(string in_name)
        {
        }
    }

}
```