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**

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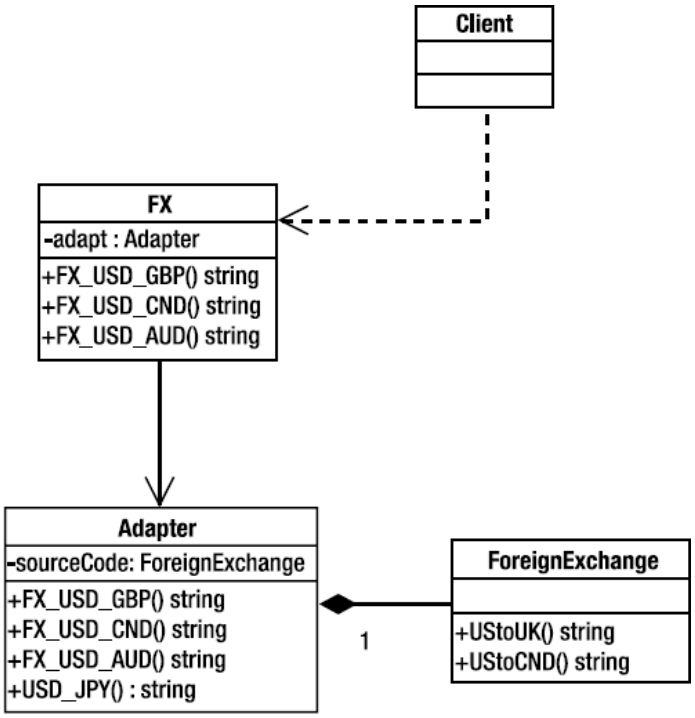
Enrollment No: **02-131212-009**

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)



Source Code:

Client Class:

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

namespace Assignment2
{
class Client
{
private FX fx;
}
}
```

FX Class:

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

namespace Assignment2
{
class FX
{
private Adapter adapt;
public string FX_USD_GBP()
{
return "FX_USD_GBP";
}
public string FX_USD_CND()
{
return "FX_USD_CND";
}
public string FX_USD_AUD()
{
return "FX_USD_AUD";
}
}
}
```

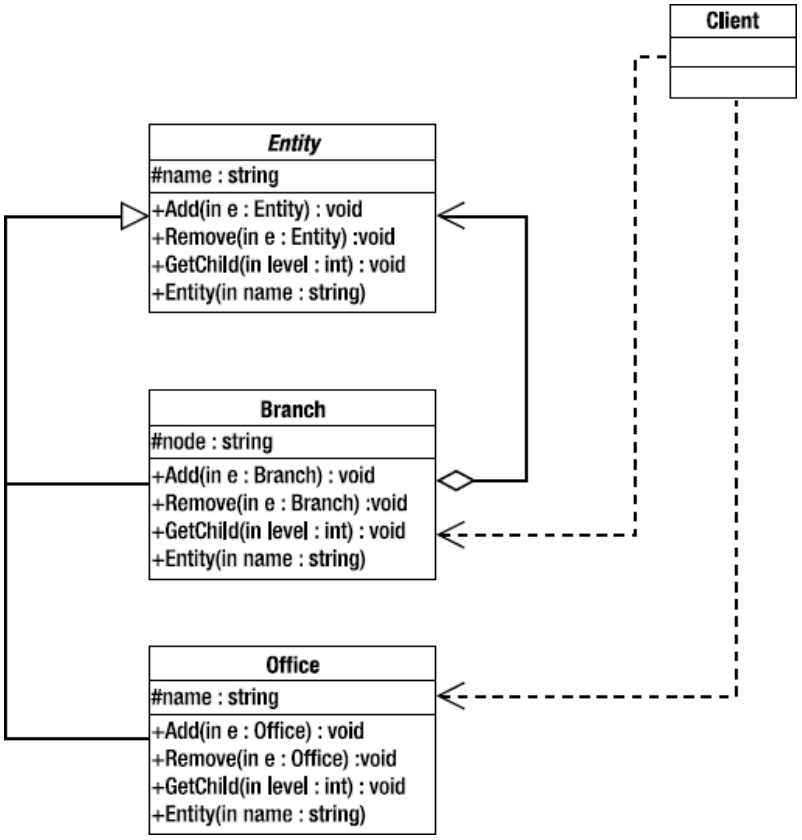
Adapter Class:

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

namespace Assignment2
{
class Adapter
{
private ForeignExchange sourceCode;
public Adapter()
{
sourceCode = new ForeignExchange();
}
public string FX_USD_GBP()
{
return "FX_USD_GBP";
}
public string FX_USD_CND()
{
return "FX_USD_CND";
}
public string FX_USD_AUD()
{
return "FX_USD_AUD";
}
public string USD_JPY()
{
return "USD_JPY";
}

}
}
```

ForeignExchange Class:

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

namespace Assignment2
{
class ForeignExchange
{
public string UStoUK()
{
return "UStoUK";
}
public string UStoCND()
{
return "UStoCND";
}
}
}
```

(b)



Source Code:

Client Class:

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

namespace Assignment2
{
class Client
{
private Branch branch;
private Office office;

}
}
```

Entity Class:

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

namespace Assignment2
{
class Entity
{
protected string name;
public Entity(string name)
{
this.name = name;
}
public void Add(Entity e) { }
public void Remove(Entity e) { }
public void GetChild(int level) { }

}
}
```

Branch Class:

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

namespace Assignment2
{
class Branch:Entity
{
protected string node;
Entity entity;
public Branch(Entity entity,string name) : base(name)
{
this.entity = entity;
}
public void Add(Branch e){}
public void Remove(Branch e) { }
public void GetChild(int level) { }

}
}
```

Office Class:

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

namespace Assignment2
{
class Office:Entity
{
protected string name;
public Office(string name):base(name)
{
this.name = name;
}
public void Add(Office e) { }
public void Remove(Office e) { }
public void GetChild(int level) { }
}
}
```