# 01-08-Class Homework

*Due by 01-14-12pm*

This homework is designed to practice how to encapsulate multiple items into a class. In addition, switch case, and for statement will be practiced. This homework focuses on creating class, using class, and how to overload methods in a class.  You can choose either console application

## Home 1: create a calculator and overload operants

In this project, you need to new a class called Calculator. In the Calculator, you need have methods Add() and Times().

For Add(), you need to overload it, for example,
Add(int x, int y)    // add two integers
Add(int x, double y)  //add one integer and one double
Add(int x, int y, int z)  //sum of 3 integers

For Multiply(), you also need to overload it, for example,
Multiply(int x, int y)  //times 2 integers
Multiply(int x, int y, int z) //times 3 integers
Multiply(int x, double y)  //times 4 integers

same thing for subtract and divide.
Here, we provide an example for the Calculator class

```
class Calculator
{
    /// Define necessary Property in calculator

  /// public int Add(int x, int y)
      {
        ...
      }
   /// public double Add(double x, double y)
      {
          ...
      }
    // More methods
}
```

# Homework 2: shape area calculator

You need to have a shape class. In this class, you should get at least two kinds of shapes (e.g. rectangle and circle). You are required to implement at least two methods GetArea() in this class.

Here is an example for shape area:

```
class Shape
{

    // 对圆形或者长方形分别写constructor
      public  Shape(double width, double height)
      {
            ……
      }

      public Shape (double radius)
       {
            ….
       }

    /// 接下来写 Shape class 里面的 properties
    //  以下是一个example, 你可以按自己方式定义property
    private double _width;



    /// <summary>
    /// 宽
    /// </summary>
    public double Width
    {
        get { return _width; }
        set { _width = value; }
    }

    private double _height;

    /// <summary>
    /// 高
```

```
    /// </summary>
    public double Height
    {
        get { return _height; }
        set { _height = value; }
    }


    /// <summary>
    /// 计算指定图形的面积
    /// </summary>
    /// <returns></returns>
    public double GetCircleArea(.....)
    {
        //计算圆形
    }
    public double GetRectangleArea(....)
    {
        //计算长方形
    }

}
```