

Tutorial (Classes in Depth...private attributes)

Exercise 1:

Write java a class called Calculator. The Calculator class will have six data members: num1 (an int), num2 (an int), sum (an int), difference (an int) product (an int) and division (a float).

Write a java program to test your Calculator class. Your program should Create one Calculator object, prompt the user to enter two numbers, stores the sum, difference, product and division in the attributes and displays them on screen.

Calculator
+ num1 : int +num2 : int - sum: int - difference: int - product: int -div: float
+setSum(sum:int):void +getSum():int +setDifference(difference:int):void +getDifference():int +setProduct(product:int):void +getProduct():int +setDiv(div:float):void +getDiv():float

Solution:

```
public class Calculator {

    public int num1;
    public int num2;
    private int sum;
    private int difference;
    private int product;
    private float quotient;

    public void setSum(int sum) {
        this.sum = sum;
    }
    public int getSum() {
        return sum;
    }

    public void setDifference(int difference) {
        this.difference = difference;
    }
    public int getDifference() {
        return difference;
    }

    public void setProduct(int product) {
        this.product = product;
    }
    public int getProduct() {
        return product;
    }

    public void setDiv(float div) {
        this.div = div;
    }
    public float getDiv() {
        return div;
    }

}
```

```
import java.util.Scanner;
```

```
public class Main {

    public static void main(String[] args) {

        Scanner input=new Scanner(System.in);
        Calculator c=new Calculator();

        System.out.println("Enter First Number");
        c.num1=input.nextInt();

        System.out.println("Enter Second Number");
        c.num2=input.nextInt();

        c.setSum(c.num1+c.num2);

        c.setDifference(c.num1-c.num2);

        c.setProduct(c.num1*c.num2);

        c.setDiv((float)c.num1/c.num2);

        System.out.println("Sum is "+c.getSum());
        System.out.println("Difference is "+c.getDifference());
        System.out.println("Product is "+c.getProduct());
        System.out.println("Division is "+c.getDiv());

    }

}
```