

11-05-2020

Today let us try to make some known programming sample questions in java language.

This is supposed that we have earlier installed any latest version of the Java Development Kit in our PC/laptop and setting the path and classpath as discussed in the starting class.

Let us try with a small program which asks to input any two numbers and perform all mathematical operations (addition, subtraction, multiplication, division and modulus operation) on them.

Let us discuss first of all the requirements for doing this program as follows:-

- We have to make a class having at least two data members (integral) for input of data
- We have to make different functions for performing input and calculations.
- Then we have a main function which is driver function for any program.
- We have to import Scanner class for user data input which is in java.util package

```
import java.util.Scanner;  
class Operations  
{  
    int first, second;
```

```
    add(int a, int b)  
    }  
}
```

```

void input()
{
    System.out.print("Enter any two nos:");
    Scanner ob = new Scanner(System.in);
    first = ob.nextInt(); second = ob.nextInt();
    System.out.println("Both nos are stored.");
}

```

```

void calc()
{
    System.out.println("Sum of numbers: "+(first+second));
    System.out.println("Subtraction Result: "+(first-second));
    System.out.println("Multiplication Result: "+(first*second));
    System.out.println("Division Result: "+(first/second));
    System.out.println("Modulus Result: "+(first%second));
}

```

```

public static void main(String args[])
{
    Operations obj = new Operations();
    obj.input();
    obj.calc();
}
// close of class Operations

```

Save this program with  
**Operations.java**  
 Compile:-  
 javac Operations.java  
 Run:- java Operations

This is the simplest way of doing the things, but not storing the results.

Another way of doing the same program will be as:-

```

import java.util.Scanner;
class Operations
{
    int first, second, result1, result2, result3, result4;
    int result5;
}

```



```
Operations1(int a, int b)
```

```
{ first=a; second=b;
```

```
result1=result2=result3=result4=result5=0;
```

```
}
```

```
void calc()
```

```
{ result1=first+second;
```

```
result2=(first > second) ? (first-second) : (second-first);
```

```
result3=first * second;
```

```
result4=first / second;
```

```
result5=first % second;
```

```
}
```

```
void show()
```

```
{
```

```
System.out.println(first + "+" + second + "=" + result1);
```

```
System.out.println(first + "-" + second + "=" + result2);
```

```
System.out.println(first + "*" + second + "=" + result3);
```

```
System.out.println(first + "/" + second + "=" + result4);
```

```
System.out.println(first + "%" + second + "=" + result5);
```

```
}
```

```
public static void main(String args[])
```

```
{ System.out.println("Enter any two numbers:");
```

```
Scanner sc = new Scanner(System.in);
```

```
int first1 = sc.nextInt(); int second1 = sc.nextInt();
```

```
Operations1 ob = new Operations1(first1, second1);
```

```
ob.calc();
```

```
ob.show();
```

```
} // close of main function.
```

```
} // close of Operations1 class
```

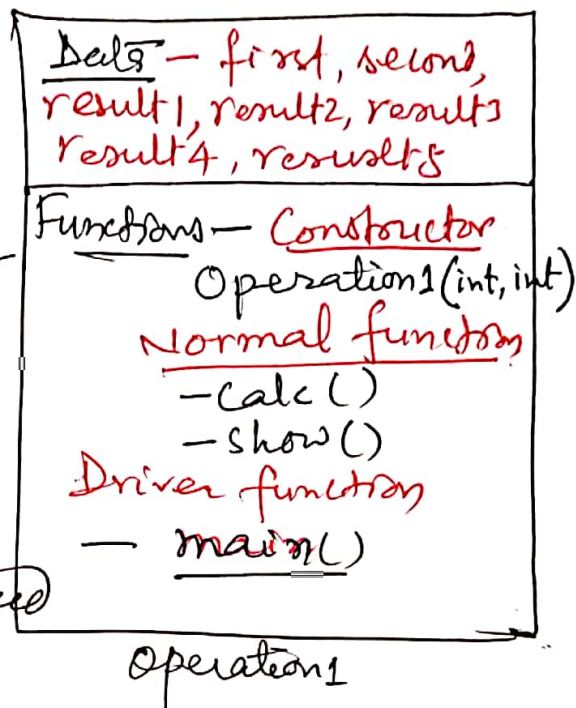
Explanation of above programs performed using 2nd way by using Constructor function:—

→ We have used a class name (created by us)

Operations1

→ At the time of constructor initialization, two numbers variables a and b are passed to the instance Variable first and second.

After that all data members result1 to result5 initialized to zero.



calc function calculates as - sum, subtraction, multiplication, division & modulus.

→ We have used conditional operator while subtraction

main function inputs two numbers in local variable, first1 and second1, transfers it to the constructor of the class while instantiating: →

Operations1 ob = new Operations1 (first1, second1);

Then calc() & show() are respectively called on object — ob Hence get the result — as required.

— END —