



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Code Reusability in Java

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Abstract — Code reusability is an important feature of Java programming language. It is one of the reason that enables Java as a very important programming language. Here I wish to briefly explain the code reusability mechanisms in Java.

Index Terms - Java, Java Programming, code reusability, inheritance, package, interface

I. INTRODUCTION

Java is a platform independent programming language. Java is an efficient development tool for the current technological needs. It can effectively work in connection with database-related applications like SQL Server. Nowadays, a lot of applications are working based on large quantity of data. Java programming language can easily handle that sort of applications efficiently [1]

II. CODE REUSABILITY

- We can write a code for one time and it can used later without rewriting of the same code. Is feature is known as code reusability. It is one of the remarkable feature in Java programming language. This feature ease the work of programmers.
- In Java code reusability can be attained in many ways. Let us go through different code reusability mechanisms

Inheritance:

This feature allows one class to access the properties of another class. ie if a class extends another class, the former class can have direct access to the properties of latter class. The keyword that denotes inheritance is 'extends'. Inheritance types like simple, mulilevel, hierarchical, hybrid etc can be directly implemented in Java. But multiple inheritance can't be directly implemented. Multiple inheritance features can be possible in Java using implementation of interface.

Interface:

It is a mechanism to achieve abstraction. And multiple inheritance in Java. Interface consist of static methods and variables. By using 'implements' keyword, we can use interface into a class.

Package:

In Java mainly two types of packages are possible. They are Java API packages and user defined packages. By using the 'import' keyword package can be used in a program. Some of the API packages are lang, net, applet, io etc. User defined packages are created and defined by programmer or user itself.

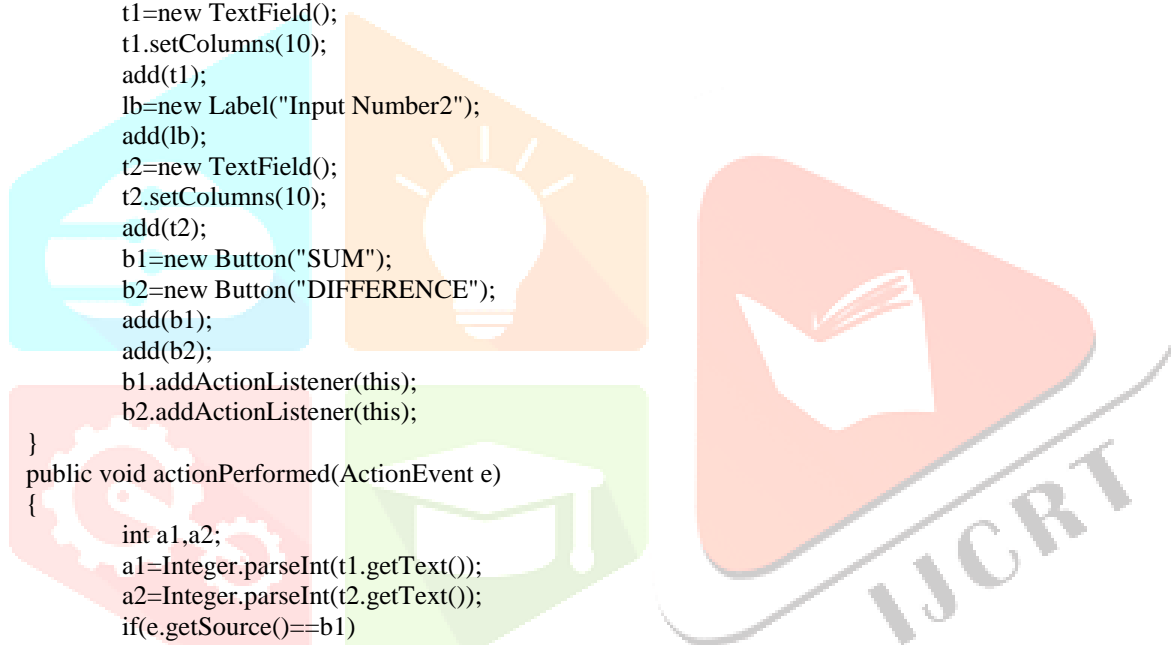
Figure. 1. Example program

```

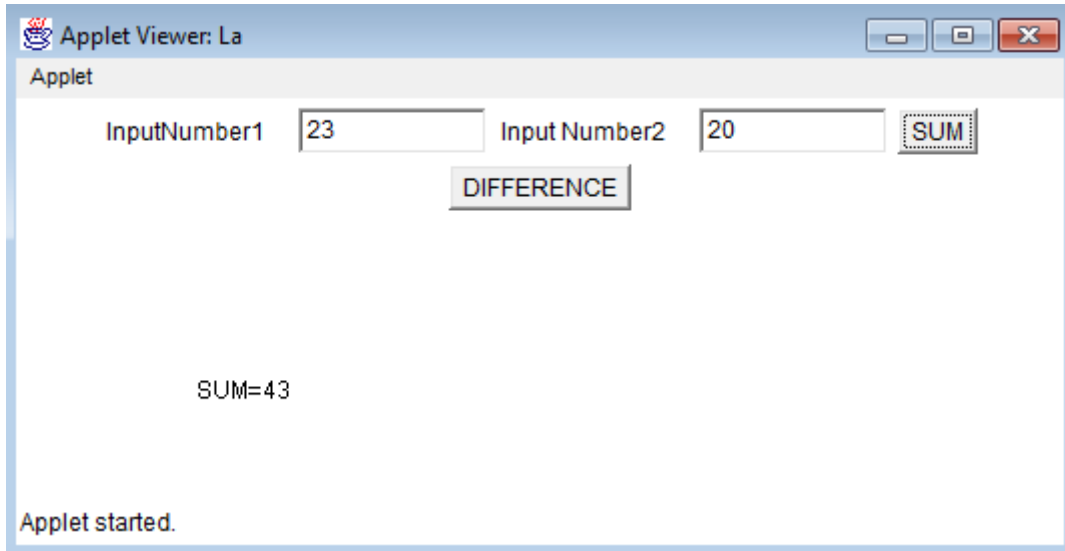
import java.awt.*;
import java.awt.Color;
import java.io.*;
import java.awt.event.*;
import java.applet.*;
/*<applet code="La" width=200 height=200>
</applet>*/

public class La extends Applet implements ActionListener
{
    Font f;
    Label lb,la;
    TextField t1,t2;
    Button b1,b2;
    int r;
    String str="",str1="";
    public void init()
    {
        la=new Label("InputNumber1");
        add(la);
        t1=new TextField();
        t1.setColumns(10);
        add(t1);
        lb=new Label("Input Number2");
        add(lb);
        t2=new TextField();
        t2.setColumns(10);
        add(t2);
        b1=new Button("SUM");
        b2=new Button("DIFFERENCE");
        add(b1);
        add(b2);
        b1.addActionListener(this);
        b2.addActionListener(this);
    }
    public void actionPerformed(ActionEvent e)
    {
        int a1,a2;
        a1=Integer.parseInt(t1.getText());
        a2=Integer.parseInt(t2.getText());
        if(e.getSource()==b1)
        {
            r=a1+a2;
            str1=b1.getLabel();
        }
        if(e.getSource()==b2)
        {
            r=a1-a2;
            str1=b2.getLabel();
        }
        str=String.valueOf(r);
        repaint();
    }
    public void paint(Graphics g)
    {
        g.drawString(str1+"="+str,90,150);
    }
}

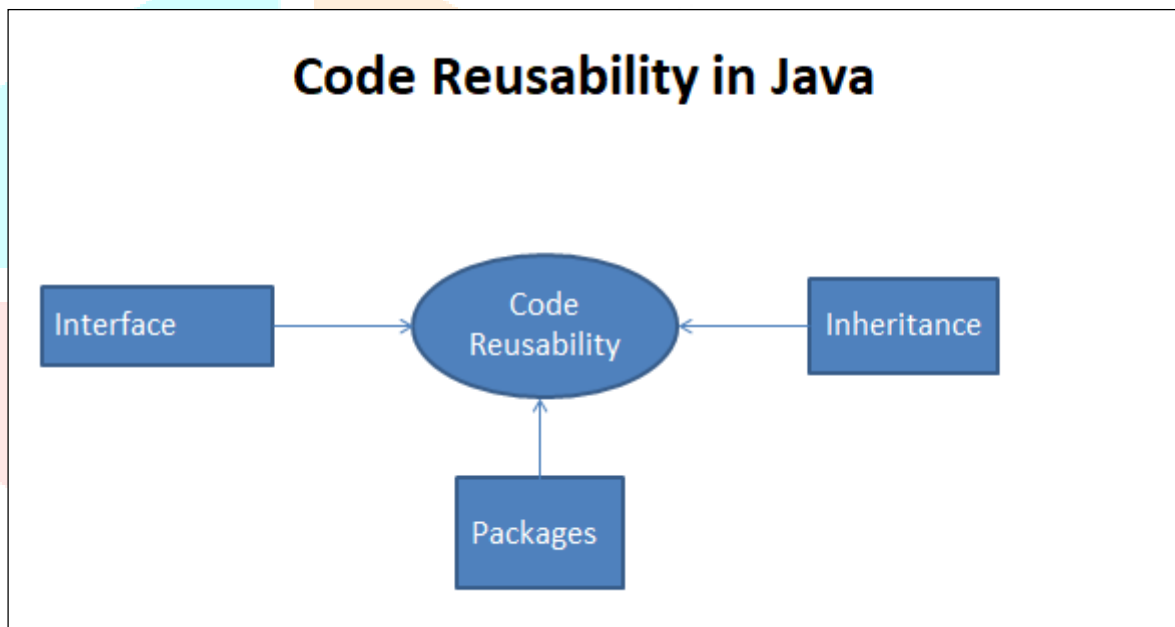
```



Program Output



In the above given program, we import `awt` and `applet` packages. Also the main class `La` inherits `Applet` class. `Applet` class is included in `applet` package. Code reusability is achieved in this program by using inheritance and packages.



REFERENCES

- [1]<https://www.w3schools.com>
- [2]<https://www.geeksforgeeks.com>
- [3]<https://www.guru99.com>
- [4]<https://www.javatpoint.com/php-tutorial>