SOFTWARE DESIGN ARCHITECTURE

ASSIGNMENT 1

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Addition.java

```
package ASSIGNMENT;

public class Addition implements Client {
public void calculate (int a,int b) {

            int result = a+b;
            System.out.println(result);
      }

}
```

Client.java

```
package ASSIGNMENT;
import javax.swing.*;



public interface Client  {

      public void calculate(int a, int b);
}
```

Console.java

```
package ASSIGNMENT;

import java.util.Scanner;

public class Console extends Decorator {



      public Console(Client Decoratedclient ) {
            super(Decoratedclient);



      }

      public void calculate(int a,int b) {


            System.out.println("Enter 1st operant");
            Scanner s=new Scanner(System.in);
            a=s.nextInt();
            System.out.println("Enter 2ND operant");
            b=s.nextInt();
            Decoratedclient.calculate(a,b);
```

```
	}


}
```

Decorator.java

```
package ASSIGNMENT;

import javax.swing.*;

public abstract class Decorator implements Client{

	@Override
	public void calculate(int a,int b) {
		// TODO Auto-generated method stub

	}

	protected Client Decoratedclient;

	public Decorator (Client Decoratedclient) {
		super();
		this.Decoratedclient = Decoratedclient;
	}


}
```

DialogBox.java

```
package ASSIGNMENT;


import javax.swing.JFrame;

import javax.swing.JOptionPane;


public class DialogBox extends Decorator {


	int op;



	public DialogBox(Client Decoratedclient ) {

		super(Decoratedclient);
```

```
        }

        public void calculate(int a,int b) {
                JFrame frame = new JFrame("InputDialog Example");

           String A = JOptionPane.showInputDialog(frame, "Enter 1ST operant");
           String B = JOptionPane.showInputDialog(frame, "Enter 2ST operant");
                a  = Integer.parseInt(A);
                b = Integer.parseInt(B);
                Decoratedclient.calculate(a,b);
        }
}
```

Multiplication.java

```
package ASSIGNMENT;

public class Multipication implements Client {

public void calculate (int a,int b) {

            int result = a*b;
            System.out.println(result);
      }
}
```

Subtraction.java

```
package ASSIGNMENT;

public class Subtraction implements Client {

public void calculate (int a,int b) {

            int result = a-b;
            System.out.println(result);
      }
}
```

Division.java

```
package ASSIGNMENT;

public class Division implements Client {

public void calculate (int a,int b) {

            int result = a/b;
            System.out.println(result);
      }
}
```

Main.java

```
package ASSIGNMENT;

import javax.swing.*;

public class Main {
      public static void main(String argu[]) {

            JFrame frame = new JFrame("InputDialog Example");




            String oper = JOptionPane.showInputDialog(frame, "Enter operation
you want to perform..\n1:add\n2:subtract\n3:multipication\n4:division");
            int b = Integer.parseInt(oper);
            if(b ==1) {
                  Client add =  new Addition();
                  Addition A = new Addition();
                  String str = JOptionPane.showInputDialog(frame, "do you
want to give input from console enter 1 \n enter 2 to give information from
dialog box");
                  int s = Integer.parseInt(str);
                  if (s == 1) {
                        Console CL = new Console (A);
                        CL.calculate(1, 1);
                  }
                  else if(s ==2) {
                        DialogBox DL = new DialogBox (A);
                        DL.calculate(1, 1);
                  }
            }
            else if(b ==2) {
                  Client sub =  new Subtraction();
                  Subtraction B = new Subtraction();
                  String str = JOptionPane.showInputDialog(frame, "do you
want to give input from console enter 1 \n enter 2 to give information from
dialog box");
                  int s = Integer.parseInt(str);
                  if (s == 1) {
                        Console CL = new Console (B);
                        CL.calculate(0, 0);
                  }
```

```
                else if(s ==2) {
                        DialogBox DL = new DialogBox (B);
                        DL.calculate(0, 0);
                }

            }
            else if(b ==3) {
                Client mul =  new Multipication();
                Multipication M =new  Multipication();
                String str = JOptionPane.showInputDialog(frame, "do you
want to give input from console enter 1 \n enter 2 to give information from
dialog box");
                int s = Integer.parseInt(str);
                if (s == 1) {
                        Console CL = new Console (M);
                        CL.calculate(0, 0);
                }
                else if(s ==2) {
                        DialogBox DL = new DialogBox (M);
                        DL.calculate(0, 0);
                }

            }
            else if(b ==4) {
                Client div =  new Division();
                Division D = new Division();
                String str = JOptionPane.showInputDialog(frame, "do you
want to give input from console enter 1 \n enter 2 to give information from
dialog box");
                int s = Integer.parseInt(str);
                if (s== 1) {
                        Console CL = new Console (D);
                        CL.calculate(0, 0);
                }
                else if(s ==2) {
                        DialogBox DL;
                        DL = new DialogBox (D);
                        DL.calculate(0, 0);
                }

            }
            else {
                 JOptionPane.showInputDialog(frame, "invalid input");
            }



      }
}
```