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package stack2;
import javax.swing.JOptionPane;
public class stack2
{
    public static void main(String[] args)
    {
        int selection;
        StackType stack =new StackType();
        selection= stack.menu();
        while(selection !=5)
        {
            if(selection ==1)
                stack.push();
            else if(selection==2)
                stack.pop();
            else if(selection==3)
                stack.create_new();
            else if(selection ==4)
                stack.printall();
            selection=stack.menu();
        }
        System.exit(0);
    }
}
class StackType extends stack_list_node
{
    stack_list_node first,last,current;
    String value,output;
    StackType( )
    {
        first = new stack_list_node();
        first.next=null;
        first.previous=null;
        last=first;
        printall();
    }

    int menu()
    {
        int selection;
        String value;
        String output="STACK PROJECT"+"\\n"+
            "1. Push on Stack"+"\\n"+
            "2. Pop off Stack"+"\\n"+
            "3. Create new Stack"+"\\n"+
            "4. Print entires in Stack "+"\\n"+
            "5. Exit "+"\\n"+
            "Enter your selection >";
        value =JOptionPane.showInputDialog(null,
            output,"Input Data",JOptionPane.QUESTION_MESSAGE);
        selection =Integer.parseInt(value);
        return selection;
    }

    void push()
    {
        current= new stack_list_node();
        value =JOptionPane.showInputDialog(null,
            "Enter new number","Input Data",JOptionPane.QUESTION_MESSAGE);
        current.number=Integer.parseInt(value);
        current.next = null;
        current.previous=last;
        last.next=current;
        last=current;
    }
}

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        printall();
    }

    void pop()
    {
        if(first == last)
            JOptionPane.showMessageDialog(null,"there is nothing in the stack ","STACK
OUTPUT:",
            JOptionPane.INFORMATION_MESSAGE);
        else
        {
            output="the number popped off is "+last.number;
            JOptionPane.showMessageDialog(null,output,"STACK OUTPUT:",
                JOptionPane.INFORMATION_MESSAGE);
            last=last.previous;
        }
        printall();
    }

    void create_new()
    {
        first = new stack_list_node();
        first.next=null;
        first.previous=null;
        last=first;
        printall();
    }

    void printall()
    {
        output="";
        current=last;
        output="Contents of the Stack "+"\n";
        if(last==first)
        {
            output=output+"NOTHING IN STACK";
            JOptionPane.showMessageDialog(null,output,"STACK OUTPUT:",
                JOptionPane.INFORMATION_MESSAGE);
        }
        else
        {
            while(current.previous !=null)
            {
                output=output+current.number+"\n";
                current=current.previous;
            }
            JOptionPane.showMessageDialog(null,output,"STACK OUTPUT:",
                JOptionPane.INFORMATION_MESSAGE);
        }
    }
}

class stack_list_node
{
    int number;
    stack_list_node previous,next;
}

```