

```
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//Extra Credit - PFN evaluation using MyStack
```

```
import java.util.Arrays;
```

```
public class JavaPostfixProject
```

```
{
```

```
    //The method to do PFN evaluation
```

```
    public static double postfixEval(String postfixExpr) //
```

```
    {
```

```
        //Create new MyStack object
```

```
        MyStack operandStack = new MyStack();
```

```
        for (int i=0; i < postfixExpr.length(); i++)
```

```
        {
```

```
            /*
```

```
            If postfixExpr.charAt(i) is a number, then convert it from char
to double                                and push it into operansStack. If it isn't a number, then it is
operator.
```

```
            Pop two numbers from operandStack then calculate two numbers
according to operator.
```

```
            Push the result into operandStack.
```

```
            */
```

```
            if (Arrays.asList('0', '1', '2', '3', '4', '5', '6', '7', '8',
'9').contains(postfixExpr.charAt(i)))
```

```
operandStack.push(Double.parseDouble(Character.toString(postfixExpr.charAt(i))));
```

```
            else
```

```
            {
```

```
                double operand2 = operandStack.getTop();
```

```
                operandStack.pop();
```

```
                double operand1 = operandStack.getTop();
```

```
                operandStack.pop();
```

```
operand2);                                double result = doMath(postfixExpr.charAt(i), operand1,
```

```
operandStack.push(result);
```

```
            }
```

```
        }
```

```
        //The last number in operandStack is the final result. Return the
result.
```

```
        return operandStack.getTop();
```

```
    }
```

```
    //The method to do calculation
```

```
    //op is for operator.
```

```
    //op1 and op2 are for operands.
```

```
    public static double doMath(char op, double op1, double op2)
```

```
    {
```

```
        if (op == '*')
```

```
            return op1 * op2;
```

```
        else if (op == '/')
```

```
            return op1 / op2;
```

```
        else if (op == '+')
```

```
            return op1 + op2;
```

```
        else
```

```
        return op1 - op2;
    }

    public static void main(String[] args)
    {
        System.out.println(postfixEval("34*452-/+"));
        //Prints 13.333333333333334
        System.out.println(postfixEval("43*5+"));
        //Prints 17.0
    }
}
```