

Data Structures and Algorithms

CSE2001

Lab - 2 - Assignment - 2

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Problem : Write a Program to Evaluate Postfix Expression

```
import java.util.Stack;

public class postfix
{
    static int evaluatePostfix(String exp)
    {

        Stack<Integer> stack=new Stack<>();

        for(int i=0;i<exp.length();i++)
        {
            char c=exp.charAt(i);

            if(Character.isDigit(c))
                stack.push(c - '0');

            else
            {
```

```
int val1 = stack.pop();
int val2 = stack.pop();

switch(c)
{
    case '+':
        stack.push(val2+val1);
        break;

    case '-':
        stack.push(val2- val1);
        break;

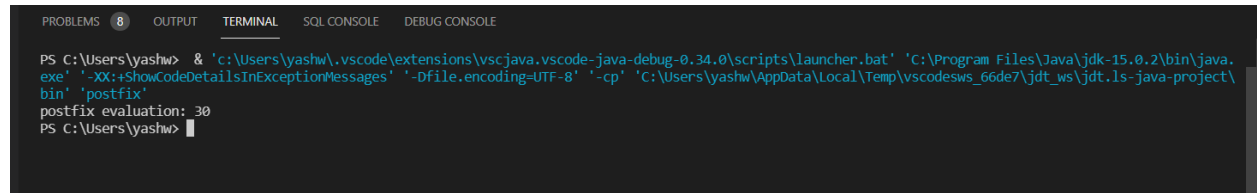
    case '/':
        stack.push(val2/val1);
        break;

    case '*':
        stack.push(val2*val1);
        break;
}
}
}
return stack.pop();
}

public static void main(String[] args)
{
    String exp="16-22+12*65/-+6*";
    System.out.println("postfix evaluation: "+evaluatePostfix(exp));
}
```

```
}
```

Output



The screenshot shows a VS Code interface with a terminal window open. The terminal has tabs for PROBLEMS (8), OUTPUT, TERMINAL, SQL CONSOLE, and DEBUG CONSOLE. The TERMINAL tab is active. The command entered is: `PS C:\Users\yashw> & 'c:\Users\yashw\.vscode\extensions\vscjava.vscode-java-debug-0.34.0\scripts\launcher.bat' 'C:\Program Files\Java\jdk-15.0.2\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-Dfile.encoding=UTF-8' '-cp' 'C:\Users\yashw\AppData\Local\Temp\vscodesws_66de7\jdt_ws\jdt.ls-java-project\bin' 'postfix'`. The output is: `postfix evaluation: 30`. The prompt `PS C:\Users\yashw>` is shown again on the next line.

```
PROBLEMS 8 OUTPUT TERMINAL SQL CONSOLE DEBUG CONSOLE
PS C:\Users\yashw> & 'c:\Users\yashw\.vscode\extensions\vscjava.vscode-java-debug-0.34.0\scripts\launcher.bat' 'C:\Program Files\Java\jdk-15.0.2\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-Dfile.encoding=UTF-8' '-cp' 'C:\Users\yashw\AppData\Local\Temp\vscodesws_66de7\jdt_ws\jdt.ls-java-project\bin' 'postfix'
postfix evaluation: 30
PS C:\Users\yashw>
```