

Program :

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import java.io.*;
class Exp5 {
    private static final char[][] precedence = {
        { '/', '1' },
        { '*', '1' },
        { '+', '2' },
        { '-', '2' }
    };

    private static int precedenceOf(String t) {
        char token = t.charAt(0);
        for (int i = 0; i < precedence.length; i++) {
            if (token == precedence[i][0]) {
                return Integer.parseInt(precedence[i][1] + "");
            }
        }
        return -1;
    }

    public static void main(String[] args) throws Exception {
        int i, j, opc = 0;
        char token;
        boolean processed[];
        String[][] operators = new String[10][2];
        String expr = "", temp;
        BufferedReader in = new BufferedReader(new
        InputStreamReader(System.in));

        System.out.print("\nEnter an expression: ");
        expr = in.readLine();
        processed = new boolean[expr.length()];

        for (i = 0; i < processed.length; i++) {
            processed[i] = false;
        }

        for (i = 0; i < expr.length(); i++) {
            token = expr.charAt(i);
            for (j = 0; j < precedence.length; j++) {
                if (token == precedence[j][0]) {
                    operators[opc][0] = token + "";

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        operators[opc][1] = i + "";
        opc++;
        break;
    }
}

for (i = opc - 1; i >= 0; i--) {
    for (j = 0; j < i; j++) {
        if (precedenceOf(operators[j][0]) >
precedenceOf(operators[j + 1][0])) {
            temp = operators[j][0];
            operators[j][0] = operators[j + 1][0];
            operators[j + 1][0] = temp;
            temp = operators[j][1];
            operators[j][1] = operators[j + 1][1];
            operators[j + 1][1] = temp;
        }
    }
}

System.out.println();

for (i = 0; i < opc; i++) {
    j = Integer.parseInt(operators[i][1] + "");
    String op1 = "", op2 = "";
    if (processed[j - 1] == true) {
        if (precedenceOf(operators[i - 1][0]) ==
precedenceOf(operators[i][0])) {
            op1 = "t" + i;
        } else {
            for (int x = 0; x < opc; x++) {
                if ((j - 2) == Integer.parseInt(operators[x][1])) {
                    op1 = "t" + (x + 1) + "";
                }
            }
        }
    } else {
        op1 = expr.charAt(j - 1) + "";
    }
    if (processed[j + 1] == true) {
        for (int x = 0; x < opc; x++) {
            if ((j + 2) == Integer.parseInt(operators[x][1])) {

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        op2 = "t" + (x + 1) + "";
    }
}
} else {
    op2 = expr.charAt(j + 1) + "";
}

System.out.println("t" + (i + 1) + " = " + op1 +
operators[i][0] + op2);
processed[j] = processed[j - 1] = processed[j + 1] = true;
}
}
}
}

```

Output:

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● PS C:\Users\Idris\Documents\College works\SPCC> cd "c:\Users\Idris\Documents\
  } ; if ($?) { java Exp5 }

Enter an expression: A+B/C*D

t1 = B/C
t2 = t1*D
t3 = A+t1
PS C:\Users\Idris\Documents\College works\SPCC> cd "c:\Users\Idris\Documents\
● } ; if ($?) { java Exp5 }

Enter an expression: A*B+C*D-F/E

t1 = A*B
t2 = C*D
t3 = F/E
t4 = t1+t2
t5 = t4-t3
○ PS C:\Users\Idris\Documents\College works\SPCC> █

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