

## Assignment 5 – 24 - April - 2023

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**Write the YACC program for the following :**

John is a newbie programmer. He has a string which is an arithmetic expression, he is struggling to find the result of this string by creating a YACC program. He also wants to know whether arithmetic expression is valid or not. His task is to perform the task accordingly. John needs your help to write the YACC program.

### **Input format**

The first line contains string S.

### **Output format**

The first line contains Validity of the string S.

The second line indicates the result.

<u><b>Sample Input</b></u>  (( 7 * 2 - 12 * 1 + 2) / 7) % 3  <u><b>Sample output</b></u>  Valid  3	<u><b>Sample Input</b></u>  (2 * 4) + (4 / 5) + 5 - 2 - 1 * 7 %  <u><b>Sample output</b></u>  Invalid
<u><b>Sample Input</b></u>  (5 ^ 12 * 4 / 2486 + ( 578 - 124) / 4))  <u><b>Sample output</b></u>  ?	<u><b>Sample Input</b></u>  4 * 3.142 * r * r  <u><b>Sample output</b></u>  ?

Zayan is throwing a birthday party. Seeing the extravagant parties thrown by her friends like Varaa and Arik in the past, Zayan too decided to do something unique. Being a Computer Engineer herself, she knew just how to do it. She sent password-protected e-invites to T of her friends. Along with each of those e-invites there would be a string of numbers and an alphabet.. Their task was to convert the given string which is an infix expression to a postfix expression and to find the result of that string. Underscore seperated postfix expression and result which would be the password for that invite.

Help Zayan friends in finding the password so that they can enjoy the party!

### Input format

The first line contains string S.

### Output format

The first line contains postfix expression

The second line indicates the result.

The third line indicates the password.

### Constraints:

$1 \leq |\text{string length}| \leq 10000$

<u>Sample Input</u>	<u>Sample Input</u>	<u>Sample Input</u>
$8 \wedge 10 / (5 * 3) + 10$	$(( (7 \% 2) - 12 / 12 * 8) + 3) \%$	$(55 \wedge 12) * (4 / 2486) + (578 - 124) \% 351$
<u>Sample output</u>	<u>Sample output</u>	<u>Sample output</u>
$8 \ 10 \wedge 5 \ 3 \ * \ / \ 10 \ +$	$7 \ 2 \% \ 12 \ 12 \ / \ 8 * - \ 3 + \ %$	?
10	?	?
$810 \wedge 53 * / 10 + \_ 10$	?	?