

2009 - 2010 ACSL
American Computer Science League PROGRAM #7

ACSL REGULAR EXPRESSIONS

Problem: Given a regular expression and a text string, determine if the text string can be generated by the regular expression. If the string cannot be generated, determine the maximum amount of the string that can be generated.

Input: Ten sets of data: each set consists of a regular expression followed by a text string, The alphabet for the input strings is {0, 1, *, () and U}, where "*" represents the Kleene star and "U" represents the union operator. The text string alphabet is {0, 1},

Output: For each data set, print "yes" if the regular expression can generate the given text, or if it cannot, then print "No" and the maximum number of characters of the text string that can be generated.

SAMPLE INPUT

Input Line #1: 1*110*, 10110
Input Line #2: (10)*1*, 1010100
Input Line #3: (01)*U (1*0), 0101110

SAMPLE OUTPUT

Output #1: No, 1
Output #2: No, 6
Output #3: No, 4

2009 - 2010

ACSL
American Computer Science League

PROGRAM #7

ACSL REGULAR EXPRESSIONS

TEST DATA

TEST INPUT

1: 10^*1 , 101
2: 1^*0^* , 110001
3: $(0^*101^*)^*$, 0010110101
4: 11^*10^* , 110110
5: 0^*1 , 0000011
6: 1^*0^*1 , 1110001001
7: $(1^*0)^*0$, 1111001100
8: $(010^*)^*$, 0101000110001
9: $(0\ 1^*) \cup (0^*1)$, 10110
10: $((00^*1) \cup (101) \cup 1^*)^*$, 1010111111111010

TEST OUTPUT

1: Yes
2: No, 5
3: Yes
4: No, 3
5: No, 6
6: No, 7
7: Yes
8: No, 8
9: No, 1
10: No, 15