

# Valid Parentheses

Prangan Found a parentheses sequence while walking along the road of Comilla University .

He wants to make the sequence as a valid parentheses sequence, because he learned it from his room-mate

Mozahid last night. Prangan made the sequence valid very easily. But Mozahid now made it a bit tricky

for Prangan. He told Prangan to make a substring of the sequence valid. He will give the left and the right position ( L and R ) of that substring. And he will ask it Q times.

As Prangan is not good at Programming like you, he is seeking help from door to door.

Please Help him.

Note to mention that,

A valid parentheses sequence is a parentheses sequence that can be transformed into a correct arphmetic expression

by inserting characters "1" and "+" between the characters of the string. For example, parentheses sequences "()()", "()" are

correct (the resulting expressions "(1)+(1)", "((1+1)+1)", and ")(" and "(" are not.

## Input

The first line contains positive integer  $t$  ( $1 \leq t \leq 100$ ) — the number of test cases.

Each test case contains a positive integer  $N$  ( $1 \leq N \leq 100000$ ) , which is the length of parentheses sequence Prangan Found.

Next Line contains a non-empty string  $S$  consisting of only characters '(' , ')'.

Next Line contains a positive integer  $Q$  ( $1 \leq Q \leq 100000$ ) denotes the query.

In each query there will be two positive integer  $L$  &  $R$  ( $1 \leq L \leq R \leq N$ ) . Summation of all  $N$  will not be greater than 500000.

## Output

For each query you have to print "YES" if it is possible to make the sequence valid rearranging parentheses in between position  $L$  to  $R$ .

See the sample output bellow for better understanding.

## Example

**Input:**  
etc.

**Output:**  
etc.