

BALANCED SMILEYS

CHALLENGE DESCRIPTION:

Credits: This problem appeared in the Facebook Hacker Cup 2013 Hackathon.

Your friend John uses a lot of emoticons when you talk to him on Messenger. In addition to being a person who likes to express himself through emoticons, he hates unbalanced parenthesis so much that it makes him go :(.

Sometimes he puts emoticons within parentheses, and you find it hard to tell if a parenthesis really is a parenthesis or part of an emoticon. A message has balanced parentheses if it consists of one of the following:

- An empty string ""
- One or more of the following characters: 'a' to 'z', ' ' (a space) or ':' (a colon)
- An open parenthesis '(', followed by a message with balanced parentheses, followed by a close parenthesis ')
- A message with balanced parentheses followed by another message with balanced parentheses.
- A smiley face ":)" or a frowny face ":("

Write a program that determines if there is a way to interpret his message while leaving the parentheses balanced.

INPUT SAMPLE:

Your program should accept as its first argument a path to a filename. Each line in this file contains a message that you got from John. E.g.

```
:(  
i am sick today (:()  
(:)  
hacker cup: started :):)  
)(
```

OUTPUT SAMPLE:

Print out the string "YES"/"NO" (all quotes for clarity only) stating whether or not it is possible that the message had balanced parentheses. E.g.

```
NO  
YES  
YES  
YES  
NO
```