

The programming language Ada has integer constants that look like this: 123, 8#123#, 16#abc#. These constants represent the integers 123, 83 (123 base 8) and 2739 (abc base 16). More precisely, an integer may be a decimal integer given as a sequence of one or more digits less than 10, or it may be an integer to some specific base, given as the base followed by a sequence of one or more digits less than the base enclosed by # symbols. Lower case letters from a through f are used as the digits representing 10 through 15.

In Ada, the base, if specified, must be a sequence of decimal digits. For this problem, however, the base may be of any form described above so long as it represents an integer between 2 and 16 inclusive.



## Input

The first line of input contains a positive integer  $n$ .  $n$  lines follow.

## Output

For each line of input, output a line 'yes' if it is a valid integer constant according to the above rules; otherwise output a line containing 'no'. Input lines contain no spaces and are between 1 and 80 characters in length.

## Sample Input

```
5
2#101#
2#101##123#
17#abc#
16#123456789abcdef#
16#123456789abcdef#123456789abcdef#
```

## Sample Output

```
yes
yes
no
yes
no
```