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C. Meme Problem

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

Try guessing the statement from this picture:



You are given a non-negative integer d . You have to find two non-negative real numbers a and b such that $a + b = d$ and $a \cdot b = d$.

Input

The first line contains t ($1 \leq t \leq 10^3$) — the number of test cases.

Each test case contains one integer d ($0 \leq d \leq 10^3$).

Output

For each test print one line.

If there is an answer for the i -th test, print "Y", and then the numbers a and b .

If there is no answer for the i -th test, print "N".

Your answer will be considered correct if $|(a + b) - a \cdot b| \leq 10^{-6}$ and $|(a + b) - d| \leq 10^{-6}$.

Example

input

[Copy](#)

```
7
69
0
1
4
5
999
1000
```

output

[Copy](#)

```
Y 67.985071301 1.014928699
Y 0.000000000 0.000000000
N
Y 2.000000000 2.000000000
Y 3.618033989 1.381966011
Y 997.998996990 1.001003010
Y 998.998997995 1.001002005
```

Educational Codeforces Round 54 (Rated for Div. 2)

Finished

→ Practice?

Want to solve the contest problems after the official contest ends? Just register for practice and you will be able to submit solutions.

[Register for practice](#)

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

[Start virtual contest](#)

→ Problem tags

[binary search](#) [math](#) [*1300](#)

No tag edit access

→ Contest materials

- Announcement
- Tutorial #1
- Tutorial #2

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