E. Petr and Permutations

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Petr likes to come up with problems about randomly generated data. This time problem is about random permutation. He decided to generate a random permutation this way: he takes identity permutation of numbers from $$$1$$$ to $$$n$$$ and then $$$3n$$$ times takes a random pair of different elements and swaps them. Alex envies Petr and tries to imitate him in all kind of things. Alex has also come up with a problem about random permutation. He generates a random permutation just like Petr but swaps elements $$$7n+1$$$ times instead of $$$3n$$$ times. Because it is more random, OK?!

You somehow get a test from one of these problems and now you want to know from which one.

Input

In the first line of input there is one integer $$$n$$$ ($$$10^{3} \le n \le 10^{6}$$$).

In the second line there are $$$n$$$ distinct integers between $$$1$$$ and $$$n$$$ — the permutation of size $$$n$$$ from the test.

It is guaranteed that all tests except for sample are generated this way: First we choose $$$n$$$ — the size of the permutation. Then we randomly choose a method to generate a permutation — the one of Petr or the one of Alex. Then we generate a permutation using chosen method.

Output

If the test is generated via Petr's method print "`Petr`" (without quotes). If the test is generated via Alex's method print "`Um_nik`" (without quotes).

Example

input
5 2 4 5 1 3
output
Petr

Note

Please note that the sample is not a valid test (because of limitations for $$$n$$$) and is given only to illustrate input/output format. Your program **still has to print correct answer to this test** to get AC.

Due to randomness of input hacks in this problem are forbidden.