

B. 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 ($10^3 \leq n \leq 10^6$).

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.