27 Finding Achilles

17 points

Introduction

For sure you known of Achilles, one of the greatest Greek warriors in the Trojan war. Despite his mighty power he had a weakness at his heel. Did you know that there are also numbers named after him? Just like Achilles, these numbers are powerful but imperfect.

Usually a positive integer is a powerful number if, when doing its factorization, every prime factor appears at least squared in the factorization. However, Achilles numbers have a weakness: that is the only way they can be represented. They cannot be represented as m^k, where m and k are positive integers greater than 1. If a powerful number has both representations, it will *not* be an Achilles number.

Let's see some examples:

- 50 is not a powerful number because one of its prime factors is not squared: $2 \cdot 5^2$

- 784 is a powerful number as its prime factors show $2^4 \cdot 7^2$, but it is not an Achilles number because it can be represented as a power in the form of 28^2.

- 200 is a powerful number as its prime factors are $2^3 \cdot 5^2$, and it is an Achilles number since it's not possible to be represented as m^k.

Can you code a program to detect whether a given positive number is or is not an Achilles number?

Example 1

Input

```
2
```

Output

```
2 is NOT an Achilles number
```

Example 2

Input

```
200
```

Output

```
200 is an Achilles number
```