CCC '96 S1 - Deficient, Perfect, and Abundant

Time Limit: 2.0s **Memory Limit:** 64M

Write a program that repeatedly reads a positive integer, determines if the integer is *deficient*, *perfect*, or *abundant*, and outputs the number along with its classification.

A positive integer, n, is said to be *perfect* if the sum of its proper divisors equals the number itself. (Proper divisors include 1 but not the number itself.) If this sum is less than n, the number is *deficient*, and if the sum is greater than n, the number is *abundant*.

The input starts with the number of integers that follow. For each of the following integers, your program should output the classification, as given below. You may assume that the input integers are greater than 1 and less than $32\,500$.

Sample Input

```
3
4
6
12
```

Sample Output

```
4 is a deficient number.
6 is a perfect number.
12 is an abundant number.
```

CCC problem statements in large part from the PEG OJ