1.

The sequence of triangle numbers is generated by adding the natural numbers. So the 7th triangle number would be 1 + 2 + 3 + 4 + 5 + 6 + 7 = 28. The first ten terms would be:

1, 3, 6, 10, 15, 21, 28, 36, 45, 55, ...

Let us list the factors of the first seven triangle numbers:

1: 1
3: 1,3
6: 1,2,3,6
10: 1,2,5,10
15: 1,3,5,15
21: 1,3,7,21
28: 1,2,4,7,14,28

We can see that 28 is the first triangle number to have over five divisors.

What is the value of the first triangle number to have over five hundred divisors?

2.

By using the given dictionaries (products.csv, attributes.csv), build a program that will map the freeform items from **data.csv** with the products and attributes from the dictionary.

Example:

organic coffee beans => Coffee Bean | Organic

Whole basil seed => Basil | Whole / Seed

Format the output of your program in the form of a CSV file with the following columns:

Data - Product - Attributes

Please note that this an open solution assignment, we do not expect everything to be mapped perfectly nor for every row to have mapped values.
The goal of this exercise is to analyze your logic in this situation.
You are free to use any language processing libraries.