Longwood Invitational (Fall 2011)

Problem 2 : The Alphabet Bet (Contributed by Ray Schneider)

Background

Bill and Ann, a pair of Computer Science students got into a discussion after English class one day. Bill figured that the incidence of vowels in the English language probably worked out to about 5/26 since there were 26 letters and only five vowels. That would mean that on average if you counted the vowels in a series of words and divided by the sum of all the letters you'd get a number near 5/26. Ann took the view that vowels were more important than consonants so that the ratio was very likely higher.

Problem

Write a program that reads in a set of words, counts the vowels and the total number of characters, and determines if the ratio of vowels to letters is greater than 0.1923 (a rough approximation of 5/26). If so, print "Ann wins!" and if not, print "Bill wins!" Although Y and W can sometimes serve as vowels (especially at the end of a word), for the purposes of this problem we always consider them to be consonants.

Input

The first line of input contains a single integer specifying the number of words to follow. Each subsequent line of input contains exactly one word made entirely of lowercase letters from the Latin alphabet.

Output

The output should consist of a line specifying the number of vowels (as an integer) followed by a line specifying the total number of letters in the input. The third line of output should describe the ratio of vowels to characters, expressed as a fixed-point decimal value with exactly four decimal places. The final line should be either the string "Ann wins!" or "Bill wins!" (without the quotation marks).

Example

Input:

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3
apple
cherry
orange
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Output:

```
6
17
0.3529
Ann wins!
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