Average length and most frequent letter — X20419_en

GRAU-PRO1, FIB (2013-12-09)

Given a sequence of words, we wish to know:

1. Which is the average length L of its words.
2. For every word with length L or longer, which is the most frequent letter (the smallest in lexicographic order in case of ties).

To solve the second question, your program must implement the function

char *most_frequent_letter*(**const string**& s);

which returns the lowercase letter with most occurrences inside the word represented by s (and the smallest in lexicographic order when ties occur).

Input

The input is formed by a natural $n > 0$ followed by n non-empty words. Each word is formed exclusively by lowercase letters.

Output

Print the average length of the words in the input sequence with precision 2. Additionally print, for every word with length equal or longer to the average one, the lowercase letter with most occurrences inside the word (the smallest in lexicographic order when ties). Please, follow the output format given in the examples.

Observation

Recall that, in order to fix a decimal precision d in the output channel, you need to use the following instructions

```
cout.setf(ios::fixed);
cout.precision(d);
```

You may find useful to define and use the constant *LENGTH_ALPHABET*,

```
const int LENGTH_ALPHABET = 'z' - 'a' + 1;
```

Sample input 1

```
5
this is the third control
```

Sample output 1

```
4.20
third: d
control: o
```

Sample input 2

```
1
hello
```

Sample output 2

```
5.00
hello: l
```

Sample input 3

```
5
all  bye one two rye
```

Sample output 3

```
3.00
all: l
bye: b
one: e
two: o
rye: e
```

Sample input 4

```
5
there are many programming paradigms
```

Sample output 4

```
6.40
programming: g
paradigms: a
```

Problem information

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