13 Double checking Internet facts
6 points

FAKE

Introduction

You are attending your daily English class at the Upside-Down school, and your teacher tells you and your classmates about letter frequency. She says the letters E, T, A, O and I are the most used in the English language. Since you're a curious guy, you raise your hand and ask the teacher where she learned about this, and she mentions that she read an article on Wikipedia. You know that Wikipedia has a lot of information, but since everyone can edit it, you do not always trust everything it says. To make sure that the information is right, you decide to create a program to verify the letter frequency in different texts.

Input

The input is a text in English.

Output

Print each letter of the Upside-Down English Alphabet with their corresponding number of appearances.

Example

Input

In a 2017 German study, researchers at Ruhr-University Bochum compared the ability of gamers and non-gamers to remember information from cue cards and then combine that information to predict weather conditions. The video gamers showed greater retention of the cue card knowledge and made better predictions, especially in conditions of uncertainty.

Output

```
z = 0
y = 5
x = 0
w = 3
v = 2
u = 7
t = 26
s = 13
r = 26
q = 0
p = 4
o = 23
n = 25
m = 13
l = 4
k = 1
j = 0
i = 22
h = 10
g = 6
f = 6
e = 37
d = 15
c = 14
b = 5
a = 22
```