

Problem Q: G.P.A.

Source: `gpa.{c,cpp,java}`

Input: `console {stdin,cin,System.in}`

Output: `console {stdout,cout,System.out}`

Students taking courses at Babbage University receive a grade of 'A', 'B', 'C', 'D', or 'F' at the end of the course. When a student's grade point average (GPA) is computed, these letter grades will have the numerical values 4, 3, 2, 1, or 0, respectively. All courses carry the same number of credits. You will compute a student's GPA from the list of letter grades.

Input

The input will contain data for a number of test cases. There will be one line of input for each test case: it will be a list of at least one, but not more than seven (upper case) letter grades, separated by one blank space.

Output

There will be one line of output for each test case, containing the case number and the GPA (rounded to two decimal places), formatted as shown in the sample output. If the input contains a letter other than the five legal upper case letters, the message shown in Case 3 of the sample output will be printed instead of the GPA.

Sample Input

```
A B C D F
B F F C C A
D C E F
```

Sample Output

```
Case 1: 2.00
Case 2: 1.83
Case 3: Unknown letter grade in input
```