

6632 GPA

In college, a student may take several courses. for each course i , he earns a certain credit (C_i), and a mark ranging from A to F, which is comparable to a score (S_i), according to the following conversion table:

A	A-	B+	B	B-	C+	C	C-	D	D-	F
4.0	3.7	3.3	3.0	2.7	2.3	2.0	1.7	1.3	1.0	0

The GPA is the weighted average score of all courses one student may take, if we treat the credit as the weight. In other words,

$$GPA = \frac{\sum(c_i * s_i)}{\sum c_i}$$

An additional treatment is taken for special cases. Some courses are based on “Pass/Not pass” policy, where students earn a mark “P” for “Pass” and a mark “N” for “Not pass”. Such courses are not supposed to be considered in computation. These special courses must be ignored for computing the correct GPA.

Specially, if a student’s credit in GPA computation is 0, his/her GPA will be “0.00”.

Input

There are several test cases, please process till EOF.

Each test case starts with a line containing one integer N ($1 \leq N \leq 1000$), the number of courses.

Then follows N lines, each consisting the credit and the mark of one course. Credit is a positive integer and less than 10.

Output

For each test case, print the GPA (rounded to two decimal places) as the answer.

Note:

For the first test case:

$$GPA = \frac{3.0 * 2 + 1.0 * 3 + 0.0 * 1 + 4.0 * 3}{2 + 3 + 1 + 3} = 2.33$$

For the second test case: because credit in GPA computation is 0 (P/N in additional treatment), so his/her GPA is ‘0.00’.

Sample Input

```
5
2 B
3 D-
2 P
1 F
3 A
2
2 P
2 N
```

6
4 A
3 A
3 A
4 A
3 A
3 A

Sample Output

2.33
0.00
4.00