

High CG Boy

There are some people with high CGPA who rarely codes, and the people who codes regularly doesn't have a handsome CGPA. However in IUT(International University Of Technology) There is a student who has a handsome CGPA but codes too. His name is Atondro Fuad. He is very serious about his CGPA. Though he had some bad results in some of his previous semesters, he is so determined that he will not miss CGPA 4 from now on in any semester.

Now, Your task is to help Atondro Fuad to find what will be his CGPA while he'll be graduating(after 8 semesters) assuming that he'll get GP 4.00 on every semester from now.

Given his semester and current CGPA, find the final CGPA of Atondro Fuad.

Every semester in IUT has same number of credits.

Input

First line will contain an integer $t \leq 1000$, the number of testcases.

Then the next t lines will contain one inegers $0 < n \leq 8$ and one floating point number $0.00 \leq c \leq 4.00$.

Here n is the current semester Atondro Fuad is in, and c is his current CGPA.

Output

For each testcases, print a new line containing his CGPA after graduation rounded upto 2 decimal points.

Example

Input:

```
5
3 3.95
4 4.00
5 2.56
1 0.00
8 3.98
```

Output:

```
3.99
4.00
3.28
```

4.00

3.98