Problem 2 – Symbol to Number

You are given a number (SECRET) and a text. The text must be encoded using the SECRET.

The encoding is done as follows:

- If the character is "@", stop the program
- If the character in the text is a letter, multiply its char code by the given SECRET and add 1000.
- If the character in the text is a digit, add to its char code SECRET and add 500
- If the character in the text is not a digit, letter or "@" (any other symbol), subtract from its char code SECRET
- After performing the above operations on the character in the original text:
  - If the character is on even position in the text - divide the encoded value by 100 and round the precision to 2 digits after the decimal point
  - Else if the character is on odd position in the original text – multiply its encoded value by 100
  - The first character in the text is at position 0.

Your task is to encode a text, using the rules above.

Input

The input data is given at the standard input.

On the first line you will find an integer number – the SECRET number

On the next line, you will find the text, ending with "@"

The input will be valid, in the specified format, within the constraints given below. There is no need to check the input data explicitly.

Output

Print the encoded text

Constraints

- **SECRET** will always be between **1 and 10**
- The count of the characters in the text will always be less than **10 000**
- Allowed working time for your program: 0.1 seconds.
- Allowed memory: 16 MB.

Example

Input	Output
6 Telerik Academy Rocks!@	15.04 160600 16.48 160600 16.84 163000 16.42 2600 13.90

	159400 15.82 160000 16.06 165400 17.26 2600 14.92 166600 15.94 164200 16.90 2700
Input	**Output**
10 C#1 is pretty easy exam@	16.70 2500 5.59 2200 20.50 215000 0.22 212000 21.40 201000 21.60 216000 22.10 2200 20.10 197000 21.50 221000 0.22 201000 22.00 197000 20.90