

## Concurso ACM-UPF 2014

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## Problem B: Tight words

Given is an alphabet  $\{0, 1, \dots, k\}$ ,  $0 \leq k \leq 9$ . We say that a word of length  $n$  over this alphabet is *tight* if any two neighbour digits in the word do not differ by more than 1.

Input is a sequence of lines, each line contains two integer numbers  $k$  and  $n$ ,  $1 \leq n \leq 100$ . For each line of input, output the percentage of tight words of length  $n$  over the alphabet  $\{0, 1, \dots, k\}$  with 5 fractional digits.

### Sample input

```
4 1
2 5
3 5
8 7
```

### Output for the sample input

```
100.00000
40.74074
17.38281
0.10130
```

