Temperatures

Ivancho really wants to be a weatherman. Before that, however, he must first go through the necessary training. Now he can not solve one of his assignments and urgently needs your help.

He was given the temperatures in a city of **N** consecutive days. Temperatures are integers between -100 and 100. He is asked to calculate the difference between the maximum and minimum average temperatures from arbitrary **K** consecutive days.

Note: Reading from a file and printing into a file is done by adding an operator for that. You can use the freopen operator by turning on the cstdio library and adding the following two lines to the beginning of your main function: freopen ("temperatures.in", "r", stdin); freopen ("temperatures.out", "w", stdout);

Input

The first row of the file `temperatures.in` contains two integers **N** and **K**.

Output

In the output file `temperatures.out` print one number **rounded to exactly 2 decimal places** - the difference between the maximum and minimum average temperature from arbitrary K consecutive days.

Constraints

$1 \le N \le 100$

$1 \le K \le N$

The temperature in each one of the N days is an integer between -100 and 100.

Time limit: 1.0 sec
Memory limit: 256 MB

Example test

Input (temperatures.in)	Output (temperatures.out)
5 2 1 3 5 4 2	2.50

Clarifications

The minimum average temperature from 2 consecutive days is (1 + 3) / 2 = 2 and the maximum is (5 + 4) / 2 = 4.5, so the answer is 4.5 – 2 = 2.50.