Problem Bitcoin Price Forecast

Bitcoin price forecast is something that interests you a lot because you could trade online at the right times and thus make a lot of money. You also learned about a simple forecasting algorithm that works well under certain conditions and you set out to implement it. The algorithm predicts the price for time *t* by making the arithmetic average of prices from times *t-1*, *t-2*, ..., *t-n*. Using this forecasting algorithm, you have decided to identify the maximum price and the minimum price to be reached in the next period and thus identify the most favorable times to buy or sell Bitcoin.

Requirement

Write a program that receives Bitcoin prices for the last *n* days and forecasts prices for the next *p* days. Then identify the maximum price and the minimum price that will be reached in the forecast period.

Input data

You will read from the keyboard (*stdin* stream) the following data:

- from the first line: two integers ***n*** and ***p***, representing ***n*** – the number of days from the past available for forecast and ***p*** – the number of days for which the forecast is made;
- from the second line: ***n*** real numbers separated by space representing Bitcoin prices in the last ***n*** days.

All lines with input data end with the *newline* character (*Enter* key).

Output data

Your program will display on the screen (*stdout* stream) the following data:

- On the first line: ***p*** real numbers with two decimal digits, separated by space, representing forecast Bitcoin prices for following ***p*** days.
- On the second line: two real numbers with two decimal digits, separated by space, representing the maximum and the minimum price identified in the forecast period.

ATTENTION to the compliance to the problem requirements: the display of results must be done EXACTLY as required! In other words, on the standard output stream there will be nothing displayed in addition to the problem requirements; following the automatic evaluation, any supplemental character displayed, or any display different than the requirements, will produce an erroneous result and will lead to the „Reject" of the solution.

Restrictions and remarks

1. ***n*** and ***p*** are integers between 1 and 1000.
2. Bitcoin prices are real numbers between 0 and 100000.
3. **Warning:** According to the chosen programming language, the file containing the code must have one of the extensions .c, .cpp, .java, or .m. The web editor does not add automatically these extensions and the lack of the extensions leads to the impossibility of program compilation!
4. **Warning:** The source file must be named by the candidate as: <name>.<ext> where name is the family name (last name) of the candidate and the extension is the one chosen according to the previous warning. Attention to the restrictions imposed by the Java language regarding the class name and the file name!

Example

Input	Output
4 3 1.13 2.1 3.68 4.5	2.85 3.28 3.58 3.58 2.85
Explanation You will use the prices from the last four days to forecast prices for the following three days. The price for day 5 will be computed as the average of the prices from days 1, 2, 3 and 4: (1.13+2.1+3.68+4.5)/4 = 2.85. The price for day 6 will be computed as the average of the prices from days 2, 3, 4 and 5: (2.1+3.68+4.5+2.85)/4 = 3.28. The price for day 7 will be computed as the average of the prices from days 3, 4, 5 and 6: (3.68+4.5+2.85+3.28)/4 = 3.58. The maximum and the minimum for the forecast period are 3.58, respectively 2.85.	

Work time: 120 minutes