

C++ Fundamentals – Retake Exam (15 May 2021)

1. Top 5 Elements

Write a program to **read a sequence of integers** and find and print the **top 5** numbers that are **greater than the average** value in the sequence, sorted in descending order.

Input

Read from the console:

- An integer number – size of the array.
- A sequence of numbers – the elements of the array.

Output

Print the described above numbers on a single line, space separated. If **less than 5 numbers** hold the mentioned above property, print less than 5 numbers. Print **"No"** if no numbers hold the above property.

Constraints

All input numbers are integers in range $[-1\,000\,000 \dots 1\,000\,000]$. The count of numbers is in range $[1 \dots 50]$.

Examples

| Input | Output | Comments |
|---|----------------|--|
| 5 10 20 30 40 50 | 50 40 | Average number = 30. Numbers greater than 30 are: {40, 50}. The top 5 numbers among them in descending order are: {50, 40}. Note that we have only 2 numbers, so all of them are included in the top 5. |
| 13 5 2 3 4 -10 30 40 50 20 50 60 60 51 | 60 60 51 50 50 | Average number = 28.08. Numbers greater than 28.08 are: {30, 40, 50, 50, 60, 60, 51}. The top 5 numbers among them in descending order are: {60, 60, 51, 50, 50}. |
| 1 1 | No | Average number = 1. There are no numbers, greater than 1. |
| 6 -1 -2 -3 -4 -5 -6 | -1 -2 -3 | Average number = -3.5. Numbers greater than -3.5 are: {-1, -2, -3}. The top 5 numbers among them in descending order are: {-1, -2, -3}. |