Lab: Java Syntax

Problems for exercises and homework for the "Software Technologies" course @ SoftUni.
You can submit your solutions here https://judge.softuni.bg/Contests/264.

1. Calculate Expression

Write a Java program which prints the result of the following expression:

- $((30 + 21) * 1/2 * (35 - 12 - 1/2))^2$

Examples

Input	Output
(no input)	329189.0625

2. Sum Two Numbers

Write a Java program to sum **two numbers**, which are received as **floating-point numbers** on a **new** line.

Examples

Input	Output
14 23	37

Input	Output
1.999 2.001	4.00

Input	Output
1.2345 5.6789	6.91

3. Three Integers Sum

Write a Java program, which receives **three numbers**, as **integer array**. Your task is to check whether there exists a number in the sequence, which is equal to the **sum** of the other two.

- If such exist, print the numbers and their sum in the following format: "**{num1} + {num2} = {sum}**". Print the elements, in such way, that **num1 <= num2**
- If there's no such element, print "**No**".

Examples

Input	Output
8 15 7	7 + 8 = 15

Input	Output
-5 -3 -2	-3 + -2 = -5

Input	Output
3 8 12	No

4. Sum N Integers

Write a Java program which receives an **integer** – **n** and finds the **sum** of the next **n** integers. On each of the next **n** lines, you will receive a **single** number.

Examples

Input	Output
5 10 20 30 40 -16	Sum = 84

5. Symmetric Numbers

Write a Java program, which receives **a number n**, as a **string array** with a single element, and print all symmetrical numbers in the range **[1…n]**.

Examples

Input	Output
50	1 2 3 4 5 6 7 8 9 11 22 33 44

Input	Output
888	1 2 3 4 5 6 7 8 9 11 22 33 44 55 66 77 88 99 101 111 121 131 141 151 161 171 181 191 202 212 222 232 242 252 262 272 282 292 303 313 323 333 343 353 363 373 383 393 404 414 424 434 444 454 464 474 484 494 505 515 525 535 545 555 565 575 585 595 606 616 626 636 646 656 666 676 686 696 707 717 727 737 747 757 767 777 787 797 808 818 828 838 848 858 868 878 888

6. Largest 3 Numbers

Write a program to read an **array** of **numbers** and find and print the **largest 3** of them, sorted in **descending order**.

Examples

Input	Output
10 30 15 20 50 5	50 30 20

Input	Output
20 30	30 20

7. Sums by Town

Write a program, which finds the **total** income for **each town** you receive.
On the **first** line, you will receive an integer – **n**.
On the **next n** lines, you will receive **towns** in the following format:

- **`{nameOfTheTown} | {income}`**

After all towns are received → print the total income for each town in the format:

- **`{nameOfTheTown} -> {totalIncome}`**

Order the towns by their names in **ascending alphabetical** order.

Examples

Input	Output
4 Sofia | 200.0 Varna | 120.0 Pleven | 60.0 Varna | 70.0	Pleven -> 60.0 Sofia -> 200.0 Varna -> 190.0