Practical

Salaries

Given the salaries of three employees working at a department, find the amount of money by which the salary of the highest-paid employee differs from the salary of the lowest-paid employee. The input consists of three positive integers - the salaries of the employees. Output a single number, the difference between the top and the bottom salaries

Sample Input	Sample Output
100 500 1000	900
500 100 1000	900
36 11 20	25
20 20 20	0

Boring Numbers

A natural number is said to be boring if all its digits are the same. Determine if the given number is boring.

Input	Output
777777	Boring
6	Boring
666	Boring

6655	Interesting

Largest Number

You are given a natural number. If it is possible to rearrange/shuffle its digits and get a larger number than the one you started with, output “Yes”. Otherwise, output “No”. For example, given 3112 you can rearrange the digits and get 3211, which is larger than 3112, hence the answer is Yes. In contrast, no matter how you rearrange the digits of 987, you will not be able to get a larger number, hence the answer for 987 should be No.

Sample Input	Sample Output
2	No
678	Yes
88889	Yes
99888740	No
9414	Yes

Line Segment Intersection

You are given four real numbers- a1, b1, a2, b2 - The endpoints of two line segments on a line. Find the length of their intersection. Note that the order of the endpoints of a segment is irrelevant, i.e. the segments [1;2] and [2;1] are considered the same.

Sample Input	Sample Output
1 4 9 7	0

1 2.5 3 2	0.5
10 0 0.1 0.2	0.1

Number Of Divisors

Input a positive x. Find the number of divisors of that x.
(Hint: you can check if y is a divisor for x by checking x%y == 0)

Input	Output
1	1
3	2
10	4

Quadratic Equation

Input three real numbers a, b, c and solve the equation $ax^2+bx+c=0$.

Output an information about whether the equation is

1. Quadratic equation
2. Non-quadratic equation

For quadratic equations output the value of it's discriminant
And in any case output the number of solutions, and the solutions themselves. Follow the examples below.
D = b * b - 4 * a * c
X1,2 = (-b +- sqrt(D)) / 2 * a

Sample Input	**Sample Output**

1.5 -2 4	Quadratic equation Discriminant: -20 No Solutions
0 0 7	Non-quadratic equation No Solutions
0 -2 1	Non-quadratic equation One solution: 0.5
1 0 -1	Quadratic equation Discriminant: 4 Two solutions: 1 -1
0 0 0	Non-quadratic equation Infinite solutions