

Homework lecture 1

Programming review

*Note:

- Numbers in the same line must be separated by only **one** space.
- Float numbers must be rounded to 2 decimal places.

1. Your task is to write a C++ program to read a sentence from the keyboard, and print to the screen the sentence in the reversed order.

Example

Keyboard	Screen
hello	olleh
how are you	uoy era woh

2. Your task is to write a C++ program including 2 classes Point and Line to store four points (A, B, C, D) on the two-dimension plane. The program determines the intersection between line AB and line CD.

Input: The first line contains two real numbers separated by a space describing the point A. Similarly, the second, third, and fourth lines contain data for points B, C, and D, respectively.

Output: Write to the screen the intersection point between AB and CD. Write “NO” if there is no intersection, or “MANY” if AB and CD have many intersection points.

Example

Keyboard	Screen
0 0	0.50 0.50
1 0	
0 1	
1 1	

3. Your task is to write a C++ program to find the greatest common divisor of two integer numbers.

Input: Read two positive integer numbers m and n from the keyboard

Output: Write to the screen the greatest common divisor of m and n .

Example

Keyboard	Screen
9 6	3

4. Your task is to write a C++ program to read a list of integer numbers from the keyboard and write to the screen the list of numbers after being increasingly sorted.

Input:

- The first line contains an integer number n that is the number of numbers on the list.
- The second line contains n integer numbers separated by a space.

Output: Write to the screen n sorted numbers in one line.

Example

Keyboard	Screen
5	2 3 4 5 9
5 3 4 2 9	

5. Given 5 different numbers, your task is to write a C++ program to calculate the sum of the greatest number and the smallest number.

Input: One line contains 5 real numbers separated by a space.

Output: Write to the screen the sum of the greatest number and the smallest number.

Example

Keyboard	Screen
5 2 4 2 9	11