

## 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 1 1 1	0.50 0.50

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