

Exercises

4 – Functions and Libraries

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Exercise 1

Write a C program that, given a sequence of 10 integers from the standard input, by calling a function `avg` (that you need to implement), computes the average (real) of all input values different from zero and having the sign equal to the last value of the sequence. Print the average with exactly two decimals digits.

Assumption: last element of the sequence is always different from zero.

Input

```
-2
5
3
-1
6
-4
-9
2
12
1
```

Output

```
4.83
```

Exercise 2

Write a C program that, given two integers N and M from the standard input, calling a function `multiples` (that you need to write), computes the set of the integers in the range $[1, N]$ that are multiples of M . The call to the function will print all the elements sorted in increasing order.

Input

```
10
3
```

Output

```
3
6
9
```

Exercise 3

Write a C program that reads an integer n and a float $x > 0$ and, using a function `sum_pow` (that you need to write) computes the sum of the power of x , from 0 to n (that is, the value $s = x^0 + x^1 + x^2 + \dots + x^n$). Print to the standard output the value returned by the function. Print the result with exactly two decimal digits.

Input

5

2

Output

63.00

Exercise 4

Write a C program that reads from the keyboard two integers N and M and calls two functions to compute the Least Common Multiple and the Greatest Common Divisor between N and M . The program prints to the standard output the $\text{LCM}(N,M)$ and then the $\text{gcd}(N,M)$.

Input

2

5

Output

10

1