

Lab Lesson 02

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Exercises

1. Write a program that reads always one number per line. Stop the user's entry to the fifth even value. Display the sum of all numbers obtained.
2. Write a program that reads always one number per line. Add each number to the previous ones, only if is odd. Display the sum of all numbers obtained as soon as the sum reaches, or exceeds, 100.
3. Write a program to calculate the maximum and minimum value of a set of N numbers entered via the keyboard. Each number will be provided on a separate line. The program must read the value of N, and then it must read a sequence of N numbers by N distinct lines. At this point the program must print the maximum and the minimum between the entered numbers.
4. Create a program that generates the n-th number within the fibonacci sequence. Remember that:
 - $Fib(0) = 1$
 - $Fib(1) = 1$
 - $\forall n \geq 2. Fib(n) = Fib(n - 1) + Fib(n - 2)$
5. Write a program to analyze a sequence of numbers separated by spaces in a same line. Calculate and print the following results:
 - the number of positive numbers, negative numbers and zeros
 - The number of odd and even numbers
 - If the sequence of numbers is ascending, descending or non-monotonic. Distinguish also the former cases from empty sequence and when it consists of one single element.
6. Given an integer read via terminal, print a list of all its divisors (integers)
7. Write a program checking whether the input-provided string is palindrome or not.

8. Given two arbitrary strings, "data" and "pattern", create a program that checks how many times pattern is represented as a substring of data.