LABORATORY 2 – LAB ACTIVITY

Add a new menu item to your existing menu, allowing you to solve one of the problems below:

1. Generate all the prime numbers smaller than a given natural number n.

2. Generate the first n prime numbers (n is a given natural number).

3. Print the exponent of a prime number p from the decomposition in prime factors of a given number n (n is a non-null natural number).

4. Read a sequence of natural numbers (sequence ended by 0) and determine the number of 0 digits of the product of the read numbers.

5. Determine the value x^n, where x is a real number and n is a natural number, by using multiplication and squared operations.

6. Decompose a given natural number in its prime factors.

7. Decompose a given even natural number, greater than 2, as a sum of two prime numbers (Goldbach's conjecture).

8. Determine the first n pairs of twin numbers, where n is a given natural and non-null number. Two prime numbers p and q are called twin if q – p = 2.

9. Determine all the numbers smaller than a given natural and non-null number n and that are relatively prime to n.

10. Determine the first 8 natural numbers (x1, x2, …, x8) greater than 2 with the following property: all the natural numbers smaller than x_i and that are relatively prime with x_i (except for the number 1) are prime, i =1,2, …, n.