Introduction to Computer Science
Laboratory 9

1. Finish the exercises present in the 9^{th} tutorial.
2. Write a function that takes two positive integer numbers as a parameter (x and y) and returns the result of x^y. Write a program that tests the implementation of your function.
3. Design a function `int nextPrime(int)` that given a integer number N, returns the first prime number greater or equal than N. Write a program that tests the implementation of your function.
4. Write a function that takes a character c as a parameter and returns 1 if c is a letter and 0 otherwise.
5. Implement a function that takes a character c as a parameter and returns 1 if c is a vowel letter and 0 otherwise.
6. Write a program that takes as input a character sequence and counts how many letters, vowels and consonants are in the sequence **reuse the functions previously defined**.
7. Implement a function that given two integer numbers a and b, calculates the greatest common divisor between a and b. Write a program that tests the implementation of your function.
8. Define a function that given two integer numbers a and b, calculates the least common multiple between a and b. Write a program that tests the implementation of your function.
9. Write a function that given an integer number N, returns the sum of N's digits. Write a program that tests the implementation of your function.
10. Write a function that takes as a parameter an integer number N, and checks if N is a palindrome or not. Write a program that tests the implementation of your function.

11. Write a function `int sumEven(int numberArray[], int numberArraySize)` that returns the sum of all of the even numbers in numberArray. Write a program that tests the implementation of your function.

12. Define a function that given a positive integer N, returns N+1.

13. Implement a function that given two positive integer numbers a and b, returns a+b. **This function cannot use the C add operator (+)**.