Homework 3 – Model 4

(Using Vectorized Code whenever is possible)

Problem1

Write a function that takes N as input and returns the sum of the primes below N. For example, if N=10, your function should returns 17 (2 + 3 + 5 + 7). Your function should returns -1 if N is negative or zero.

Problem2

Write the function factFunction that allows the user to give a vector v of n positive integers and produces a new vector, r, of the same length where each element of r is the factorial of the corresponding element in v. If the user accidentally inputs a negative number, so its factorial is 0.

For example:
factFunction([1, 4, 2, 8]) should produce [1, 24, 2, 40320]
factFunction([1, 4, 2, -8]) should produce [1, 24, 2, 0]

Problem3

Write a function that takes as inputs two vectors named A and B of equal length. The function returns a vector C that combines A and B such that C = [A (1) B(1) A(2) B(2) ... A(end) B(end)].

For example: if A = [2, 4, 8] and B = [3, 9, 27] C should contain [2 3 4 9 8 27]