# Coding exercise - Prime tables – Software Engineer

### Introduction

Write an application that takes numeric input (N) from a user and outputs a multiplication table of (N) prime numbers.

This should not take you more than a couple of hours. But the aim is NOT to see how much you can code in a given time, so feel free to spend as much time as you want to highlight your level of coding.

You must put your code onto GitHub, otherwise we won’t consider it. We will review it from there.

### The requirements

* You can use whatever programming language you like for this exercise - we mainly use C# and JavaScript internally
* Write your application with high unit test coverage
* For the input and output you can use the console, a web page, or something else
* Please write an algorithm to solve the prime number generation - do not use a library method to generate your primes
* The user should input a whole number N, where is N is at least 1
* The application should output an N+1 x N+1 grid of numbers (we will test it with N == 1)

### Example

Example output when N = 3

| | 2 | 3 | 5 |

| 2 | 4 | 6 | 10 |

| 3 | 6 | 9 | 15 |

| 5 | 10 | 15 | 25 |

In the above example the 2nd prime number is 3 and the 3rd prime number is 5. So the number in the 3rd row and 4th column should be 15 (because that’s 3 x 5).

### Please include a README file that outlines:

* How to run it
* What you’re pleased with
* What you would do with it if you had more time

### Give some thought to:

* performance and complexity
* a prime algorithm that can generate very large primes
* an extensible solution
* code that is scale-able and easily maintainable

### What we're looking for

* A high standard of programming
* A Test driven approach
* Loosely coupled and highly cohesive design
* Small commits to source control so that we can see how you’ve developed your solution

That’s it.