Assignment 4

All assignments *must* be submitted as a JupyterLab `.ipynb` notebook file via email (aattanasio@unm.edu). Title the file with your name: `Assignment_NAME.ipynb`.

The *Sieve of Eratosthenes* is an ancient method for calculating prime numbers. You can read about it on Wikipedia. Some pseudocode for the algorithm is below.

> **Note: Pseudocode** is a plain language description of the steps in an algorithm. It is often composed from structural conventions of a normal programming language, but is intended for human reading rather than machine reading. That is, it will most likely error out if executed by any programming language interpreter.

In [ ]:
```
algorithm Sieve of Eratosthenes is
    input: an integer n > 1.
    output: all prime numbers from 2 through n.

    let A be an array of Boolean values, indexed by integers 2 to n,
    initially all set to true.

    for i = 2, 3, 4, ..., not exceeding √n do  # sqrt(n) = 100 for n = 10,000
        if A[i] is true
            for j = i2, i2+i, i2+2i, i2+3i, ..., not exceeding n do
                set A[j] := false

    return all i such that A[i] is true.
```

Based on the pseudocode above, write a Python code to make a list of all primes less than 10,000 (n=100). How many are there?

> **Note:** When you answer this question, you'll see the curious result that the number of primes less than 10,000 is also prime!

In [ ]: `# NAME_OF_YOUR_SCRIPT.py`

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