The *Sieve of Eratosthenes* is a method used to determine all primes less than a given number N. It is very fast. Initially, we write down all the integers from 2 to N. Begin P at 2. Cross out all multiples of P starting at 2*P; this is easily done by crossing out every Pth entry. Then increment P to the next non-crossed-out integer. Again, cross out all multiples of P. Repeat these steps until P is greater than the square root of N. The numbers that have not been crossed out represent all of the prime numbers smaller than or equal to N. Write a program that implements the Sieve for any N. For testing purposes let us keep N to be less than 10000 (even though the algorithm itself works for any positive integer)

Try the program first for a small value such as 50 or 100 so you know your program is working.

Uses: Arrays and files. The output should be written to a text file.