

## Operating Systems Lab (CS 470):

**Lab 2:** Create a program to identify prime numbers using the sieve of Eratosthenes.

### Overview

Prime numbers are specific natural numbers with the property of having only two distinct natural number divisors: 1 and the number itself. The Eratosthenes' sieve is an iterative algorithm to find among a list of numbers from  $[2, N]$ , - where  $N$  is a natural number, all the existing primes.

### Instructions

Write a program which has as input a text file, each line in the text file contains a number in increasing order from 2 to  $N$ . Using several processes  $P_i$ , where each process is responsible to delete the multiples of  $i$  from the file, create a program to identify among  $[2, N]$  all the prime numbers.

### Notes

- Each process should be created using the *fork()* system call.
- The text file containing the numbers will be given as input parameter.

### Rubric

Task	Points
Error handling	2
Detecting the primes	7
Printing the results	1