

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	3
Detecting the primes	7
Printing the results	2