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Assignment 5 writeup

For this assignment we created a program which would take a number(default 100,000) and check to see if the numbers from 2 to number selected were either prime or composite. If the number was prime the program will print ‘P’, if the number is composite the program would print ‘C’ and the prime factors. The program would know which values are prime through the usage of a bit vector of length(selected) each bit would represent a number from zero to (number selected - 1). One the bit vector is created the program will run it through a sieve(provided by Darrell Long) which would check to see if the number is prime or composite and put a zero or one to represent true or false. This program showed me how to use bit manipulation in order to set/clear/compare bytes of memory. Personally I used a loop to start checking if the number is prime or composite then another one to find factors, I ended up doing this because of a poor initial understanding of how we were to use a bit vector as I had assumed that we were going to create a new bitvector every time the program would check a different number. I now realise that that would have been extremely inefficient and would cause several memory errors. Therefore I ended up creating the bit vector after the user started the program.