CS 2250 **Data Structures and Problem Solving**
Assignment # 0 Due Date: February 01, 2007

Arrays and Pointers

Create a directory `<un>.0` in your home where `<un>` is your user name on admiral. Keep all programs and datafiles for this assignment in this directory. After you are done with the assignment, remove the executables, and execute the following commands:

```
% cd
% ~sanjiv/bin/handin cs2250 0
```

1. [25 pts] 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 with $2 \times P$; 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 using pointer arithmetic that implements the sieve for N = 100,000.