James Murphree and Darren

When using Sieve of Eratosthenes’ algorithm to find the prime numbers the array uses less memory, because you initially insert n numbers when you are checking for primes from 0 to n. In the Boolean array n Booleans is far less data than n nodes each containing a 16 bit integer and a pointer.

When using an iterative method to find Fibonacci numbers the linked list approach uses less space. You are only storing a small number of nodes so the linked list is a much more space efficient method because the array stores n Booleans where n is at least as big as the biggest number in the set. Since Fibonacci numbers get large really fast the array method ends up using a large amount of memory compared to the linked list method.

The Array implementation is much faster in every situation except when you insert numbers that are significantly larger than the numbers the array set already contains. In all the other situations the array set is faster because of it’s constant access to all the values it contains.