

In class we talked through an outline for a sort called Quicksort. Our basic outline was to write a sort that selected the first element of a subset of an array to be the pivot. We then went through some process to make it so that all elements less than the pivot were placed on the left side of the pivot and all items greater than the pivot were placed on the right side of the pivot. This process makes it so that the pivot is now in its correct position in the array and will not have to move again. You then quicksort each side of the pivot independently. Write your own version of Quicksort and a driver program that tests it on a sorted array of numbers, a reverse sorted array of numbers, and a randomly generated set of numbers.

All programs must include a comment section at the top of the program as outlined below:

```
/******  
    Program:    <name of program>  
    Author:     <your name>  
    Date:       <date you finish the program>  
    Time spent: <total amount of time spent on the project>  
    Purpose:    The purpose of this program is to blah blah blah  
*****/
```