To begin this lab I created early, middle, and late files with sets of numbers that had a zero inserted in the described position. For example, the early file has a zero inserted towards the front of the number set and the late file has a zero inserted towards the end of the number set.

Search and Binary Search functions are based on information from the Searching Lecture(respectively, slides 4-7 and 8-11). The binary search must be sorted but once sorted searching is more efficient.

Sort function is based on information from the Sort Bubble Lecture (slides 2-5). This prepares a set of numbers for a binary search.

FILE	**INITIAL**	**OUTPUT**
early	8 3 9 0 1 5 7 7 1 3 6 9 2 6 4 2 4 1 5 3 9	0 1 1 1 2 2 3 3 3 4 4 5 5 6 6 7 7 8 9 9 9
middle	8 3 9 1 5 7 7 1 3 0 6 9 2 6 4 2 4 1 5 3 9	0 1 1 1 2 2 3 3 3 4 4 5 5 6 6 7 7 8 9 9 9
late	8 3 9 1 5 7 7 1 3 6 9 2 6 4 2 4 1 5 3 0 9	0 1 1 1 2 2 3 3 3 4 4 5 5 6 6 7 7 8 9 9 9
missing0	8 3 9 1 5 7 7 1 3 6 9 2 6 4 2 4 1 5 3 9	1 1 1 2 2 3 3 3 4 4 5 5 6 6 7 7 8 9 9 9

Since all of the outputs are shown to be the same in the table above except the missing0 file, which is missing a zero, I made one sorted file with the sorted output of early, middle, and late. The program can write results into any user prompted file as wanted.

Using the sorted file, a binary search can now be performed.