1. a)
   4, 6, 2, 10, 9 initial
   2, 6, 4, 10, 9 swap 2 and 4
   2, 4, 6, 10, 9 swap 4 and 6
   2, 4, 6, 10, 9 6 < 10 and 9, no shift
   2, 4, 6, 9, 10 swap 9 and 10

   b)
   4, 6, 2, 10, 9 initial
   4, 6, 2, 10, 9 6 >= 4
   2, 4, 6, 10, 9 shift 4 and 6
   2, 4, 6, 10, 9 10 is greater than 6, no shift
   2, 4, 6, 9, 10 shift 10

2. The list needs to be sorted from smallest to largest for binary search to work properly

3. a) Starting 13
      Starting 4
      Starting 1
      Starting 0
      Middle 1
      Middle 4
      Middle 13

   b) Starting 3
      Starting 1
      Starting 0
      Middle 1
      Middle 3

   c) Starting 0

7. MergeSort and InsertionSort are stable but SelectionSort is not.
   Ex: 6A, 3, 6B, 2
      2, 3, 6B, 6A

8. a) False because Sorting is the process of putting items in a designated order, either from low to high or high to low.
   b) True
   c) False since the InsertionSort may be faster on partially sorted lists and both have a runtime of n^2
   e) True
   f) False, a binary search is used to search for a specific item in a sorted list
   g) False, it starts by searching for the middle item in an array
   h) False since efficiency is based on operations and time not just the number of lines of code
   i) True
   k) False, the sort described is MergeSort, InsertionSort builds its own list in the beginning of the array and inserts elements into it