

1. Selection sort:

4, 6, 2, 10, 9

2, 4, 6, 10, 9

2, 4, 6, 10, 9

2, 4, 6, 10, 9

2, 4, 6, 9, 10

2, 4, 6, 9, 10

2, 4, 6, 9, 10

Insertion Sort:

4, 6, 2, 10, 9

4, 6, 2, 10, 9

2, 4, 6, 10, 9

2, 4, 6, 9, 10

2, 4, 6, 9, 10

2. The list must be sorted.

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

4. N/A

5. N/A

6. N/A

7. Merge sort is stable, while selection sort is not stable. This is because selection sort swaps the lowest value with the value at the front of the unsorted portion of the array, which can swap the order of two items with the same key value

8. a) False, it can also order items from high to low

b) True

c) False, efficiency varies depending on the situation

d) True

e) True

f) False, a binary search is used to find a specific item in a list

g) False, a binary starts by examining the middle item, then starting from the left or right depending on whether or not the middle item was less or more than the target

h) False, more statements means more time taken

i) True

j) True

k) False, this is the description of a merge sort algorithm

