Question 1)

Part A)

[22,27,16,2,18,6]

First, we check 1st element and 0th element.

22<27 no change

i is zero so we are in beginning of the for loop.

[22,27,16,2,18,6]

Then, i increases to 2 and we check 2nd element and 1st element.

27>16 change order

[22,16,27,2,18,6]

i is one we check 1st and 0th element of the list.

22>16 change order.

[16,22,27,2,18,6]

Then it will continue with this algorithm, and we will continue order which is below.

[16,22,2,27,18,6]

[16,2,22,27,18,6]

[2,16,22,27,18,6]

[2,16,22,18,27,6]

[2,16,18,22,27,6]

[2,16,18,22,6,27]

[2,16,18,6,22,27]

[2,16,6,18,22,27]

[2,6,16,18,22,27] 🡪 this is the end of the sorting all element of the list is sorted

Part B:

Big-O: O(n^2)

Part C)

Average case and the worst case are O(n^2)

The best case is O(n)

Part D)

18 is the worst case because it is nearly the end of the list.

Question 2)

[3,7,5,8,2,9,3,15,6]

[3,5,7,8,2,9,3,15,6]

[3,5,7,2,8,9,15,6]

[3,5,2,7,8,9,15,6]