Q1

reverse1: worst case $O(n^2)$. Because the loop of while (i<len(lst)) is $O(n)$ and the insertion operation inside is also $O(n)$. The overall time complexity is $O(n * n) = O(n^2)$.

reverse2: worst case $O(n)$. Because the loop of while (i>=0) is $O(n)$ and the append operation is $O(1)$. So the overall time complexity is $O(n*1) = O(n)$

Q3

b) worst case is $O(n)$. Because the loop of for i in range(n) is $O(n)$, the second line operation is $O(1)$, the if/else statement is $O(n)$ and $O(1)$. So the overall time complexity is $O(n)$.

Q4

a) worst case is $O(n^2)$. Because the while loop of while (end = False) is $O(n)$. and the lst.remove(value) inside the loop is also $O(n)$. So the overall time complexity is $O(n*n) = O(n^2)$.

c) worst case is $O(n)$. Because the first loop of for i in range(n) is $O(n)$, and the operation inside is all $O(1)$. the second loop of for val in range(pointer, n) is $O(n)$, and operation inside is $O(1)$, So the overall time complexity is $O(n+n) = O(2n) = O(n)$