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Lab 2

For large n and random list, we could know the insertion and the selection sort because of their large number of comparisons and large time as their complexity is $O(n^2)$, but the other algorithms complexity is $O(n \log n)$.

- Insertion and Selection from (Theta, Zeta)

If we set the list to be in order, zeta will have the same number of comparisons as n because this is the insertion best case $O(n)$

1)insertion is zeta

To double check that selection is the other one (theta), we can change the list type with the same n , we will notice that the comparisons number is always constant

2)selection is theta

- Merge, Quick and Heap from (Alpha, Gamma, Epsilon)

when the list is InOrder or ReverseOrder, Alpha will have large number of comparisons, so it is quick as this the worst case $O(n)$ (pivot in the corner)

3)Quick is Alpha

if we change the list type with the same n , we will notice that the movements number of gamma is always constant as it copies the elements in another array.

4)merge is gamma

By elimination

5)Heap is Epsilon