The average case of Quick Sort is nlogn but worst case is n^2 because Quick Sort can not always divide into 2 equal parts. If datas are sorted or reverse sorted and we choose pivot from last or first element datas will not divide, all datas will acumulate in same where so algorithm behave like n^2.

However, if we choose pivot randomly there will not be worst case so algorithm work nlogn in every conditions.

In order for a sorting algorithm to be stable, two elements with the same key must have their place unchanged after the algorithm is running but in Quick Sort this is not provided so Quick Sort is not a stable sorting algorithm.

There are too many examples about sability, this is one of them:









