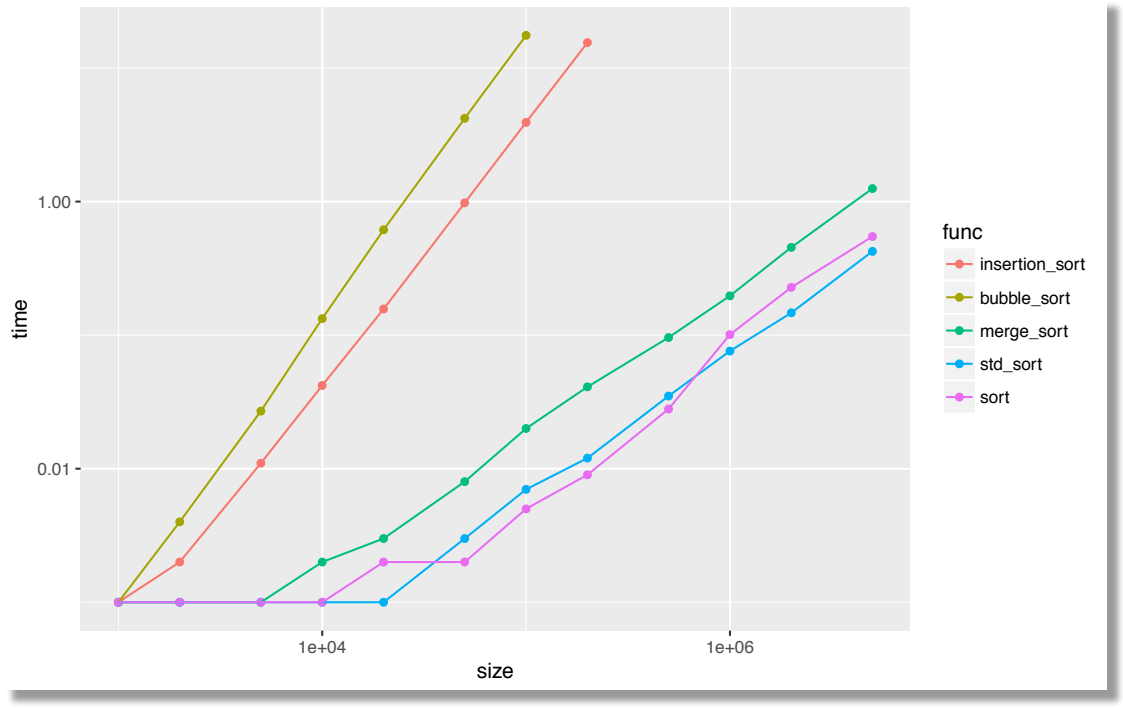

b. Based on the plot. The insertion sort and bubble sort should be in time complexity of $O(n^2)$, and the other three: merge sort, std sort and R' s native sort have time complexity of O(nlogn). Because insertion sort and bubble sort separate with other three clearly, and they have reached our time limit when the size gets around 1e05. Besides, the increasing slopes of merge sort, std sort R' s sort are slightly less steep than insertion sort and bubble sort, so they are in two different number magnitudes.

c. For the comparison between insertion sort and bubble sort, the insertion sort has better performance, because the bubble sort has n-i-1 inner iterations within the ith iteration, and $n^2/2$ total iterations, but the insertion sort has i iterations within the ith step, and mechanism to stop inner loop when finding the correct position for the current element, so $n^2/4$ total iterations. That' s why insertion sort is faster.

For the other three types of sorting, the R' s sort and std sort have similar performance for they are all using quick sort algorithm, and since quicksort has less overhead, for slow computers it' s faster than merge sort, but not so stable compared to merge sort.