6) the time expected when using mergesort for a)sorted input, b) reverse-ordered input and c) random input should be similarly the same with very little difference.

7) since the expected time is very similar when using mergesort, the O would be: O (ign)  
  
8) Stable sorting algorithms: Bubble sort, insertion sort, merge sort, count sort  
Unstable sorting algorithms: Quick Sort, Heap Sort

9)