QUIZIZZ

NAME : _____

CLASS : _____

DATE : _____

Searching and Sorting

15 Questions

1. Choose a **CORRECT** statement about pivot in quick sort method.

☐ a) A pivot makes the searching method becomes slow

☐ b) A pivot is chosen by using a formula

☐ c) A pivot can be chosen randomly.

☐ d) A pivot divides the list evenly.

2. Identify the **INCORRECT** statement about searching
i. Binary search starts by testing the largest dataii. Linear search can be done for unsorted data onlyiii. Linear search starts by testing data at the middle of listiv. Binary search can be done for sorted homogeneous data

☐ a) i, ii and iii

☐ b) i, iii and iv

☐ c) i, ii, iii and iv

☐ d) ii, iii and iv

3. Suppose a list is {2, 9, 5, 4, 8, 1}. After the first phase of bubble sort, the list becomes …

☐ a) 2, 5, 4, 8, 1, 9

☐ b) 2, 5, 9, 4, 8, 1

☐ c) 2, 9, 5, 4, 1, 8

☐ d) 2, 9, 5, 4, 8, 1

4. Given a list is {7, 4, 5, 9, 8, 2, 1}. After the first phase of selection sort, the list becomes …

☐ a) 1,2,4,9,8,5,7

☐ b) 1,4,5,9,8,2,7

☐ c) 7,4,5,9,8,2,1

☐ d) 1,2,5,9,8,4,7

5. If the number of records to be sorted is small, identify the suitable sorting to be used

☐ a) Merge sort

☐ b) Bubble sort

☐ c) Selection sort

☐ d) Quick sort

6. The worst case occurs in linear search algorithm when

_____

- ☐ a) Item is the last element in the array or item is not there at all
- ☐ b) Item is the last element in the array
- ☐ c) Item is not in the array at all
- ☐ d) Item is somewhere in the middle of the array

7. Suppose we are sorting an array of eight integers using quick sort, and we have just finished the first partitioning with the array looking like this:2 5 1 7 9 12 11 10Identify the correct statement?

- ☐ a) The pivot could be either the 7 or the 9.
- ☐ b) The pivot could be the 7, but it is not the 9.
- ☐ c) The pivot is not the 7, but it could be the 9.
- ☐ d) Neither the 7 nor the 9 is the pivot.

8. How many swaps needed to sort the following numbers using a selection sort.5 ,1 , 12 , -5 , 16 , 2 ,12 , 14

- ☐ a) 5
- ☐ b) 6
- ☐ c) 7
- ☐ d) 8

9. With a data set of 0,1,3,6,7,8,9
How many steps would a binary search take to find the value 8?

- ☐ a) 7
- ☐ b) 4
- ☐ c) 3
- ☐ d) 2

10. Which sorting algorithm is more efficient with longer lists of data?

- ☐ a) Both
- ☐ b) Neither
- ☐ c) Merge Sort
- ☐ d) Bubble Sort

11. Why might a sorting algorithm be needed before a search?

- ☐ a) The search algorithm may need the data to be in order
- ☐ b) Data is better when ordered
- ☐ c) Data always needs to be in order before searching
- ☐ d) The search algorithm may be in the code before the sorting algorithm

12. What is recurrence for worst case of QuickSort and what is the time complexity in Worst case?

- ☐ a) Recurrence is T(n) = T(n-2) + O(n) and time complexity is O(n^2)
- ☐ b) Recurrence is T(n) = T(n/10) + T(9n/10) + O(n) and time complexity is O(nLogn)
- ☐ c) Recurrence is T(n) = T(n-1) + O(n) and time complexity is O(n^2)
- ☐ d) Recurrence is T(n) = 2T(n/2) + O(n) and time complexity is O(nLogn)

13. Which of the following is **NOT** a stable sorting algorithm in its typical implementation.

- ☐ a) Quick sort
- ☐ b) Bubble sort
- ☐ c) None
- ☐ d) Insertion sort
- ☐ e) Merge sort

14. You have to sort 1 GB of data with only 100 MB of available main memory. Which sorting technique will be most appropriate?

- ☐ a) All of the above
- ☐ b) Quick Sort
- ☐ c) Heap Sort
- ☐ d) Merge Sort

15. Identify the sorting algorithm that apply divide-and-conquer method.

- ☐ a) Linear Sort
- ☐ b) Merge Sort
- ☐ c) Heap Sort
- ☐ d) Binary Sort

Answer Key

1. c
2. a
3. a
4. b
5. c
6. c
7. a
8. a
9. d
10. c
11. a
12. c
13. a
14. d
15. b