CS23336-Introduction to Python Programming

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Question 1

Complete
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Question text

Which sorting algorithm is described as making multiple passes through a list, comparing elements, and swapping adjacent items that are out of order?

Question 1 Answer

○ a. Quick Sort
◉ b. Bubble Sort
○ c. Merge Sort
○ d. Insertion Sort

Question 2

Complete
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Question text

What is the primary advantage of the divide-and-conquer approach in sorting algorithms?

Question 2 Answer

◉ a. It allows for efficient parallel processing and sorting of data
○ b. It only works on small datasets
○ c. It avoids the need for recursion
○ d. It simplifies the sorting process by using only one pass

Question 3

Complete
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Question text

Which sorting algorithm is based on repeatedly dividing the list into halves?

Question 3 Answer

○
a.
Quick Sort
○
b.
Bubble Sort
◉
c.
Merge Sort
○
d.
Insertion Sort

Question 4

Complete
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Question text

Which algorithm typically follows a divide-and-conquer structure?

Question 4 Answer

○
a.
Bubble Sort
○
b.
Linear Search
○
c.
Binary Search
◉
d.
Merge Sort

Question 5

Complete
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Question text

What is one advantage of sorting a list before performing a search operation?

Question 5 Answer

◉
a.
It allows for faster searching
○
b.
It has no effect on the search operation
○
c.
It increases the number of comparisons needed
○
d.
It makes the search operation slower

Question 6

Complete
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Question text

What is mean by stable sorting algorithm?

Question 6 Answer

◉
a.

A sorting algorithm is stable if it preserves the order of non-duplicate keys

○
b.

A sorting algorithm is stable if it doesn’t preserver the order of duplicate keys

○
c.

A sorting algorithm is stable if it preserves the order of all keys

○
d.

A sorting algorithm is stable if it preserves the order of duplicate keys

Question 7

Complete
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Question text

Which of the following is not an in-place sorting algorithm?

Question 7 Answer

○
a.

Quick sort

○
b.

Heap sort

◉
c.

Merge sort

○
d.

Selection sort

Question 8

Complete
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Question text

Which algorithm is efficient for analyzing the frequency distribution of items in a list?

Question 8 Answer

○
a.
Merge Sort
○
b.
Quick Sort
○
c.
Bubble Sort
◉

d.
Linear Search

Question 9

Complete
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Question text

Why is it advantageous to sort data before performing duplicate analysis?

Question 9 Answer

○
a.
It makes the analysis slower
◉
b.
It allows for quicker identification of duplicates
○
c.
It complicates the analysis process
○
d.
It has no effect on the analysis process

Question 10

Complete
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Question text

What does the Bubble Sort algorithm primarily focus on during each pass?

Question 10 Answer

○
a.
Sorting the entire list in one pass
○
b.
Dividing the list into halves
○
c.
Bubbling up the smallest element
◉
d.
Bubbling up the largest element to its correct position

Question 11

Complete
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Question text

Which sorting algorithm would be preferred for its divide-and-conquer approach?

Question 11 Answer

○
a.
Bubble Sort
○
b.
Binary Search
○
c.
Linear Search
◉

d.
Merge Sort

Question 12

Complete
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Question text

Why is sorting important for selection operations?

Question 12 Answer

○
a.
It complicates the selection of items
○
b.
It makes the data unsorted
○
c.
It slows down the process
◉
d.
It makes it easier to select items based on their relationship to the rest of the items

Question 13

Complete
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Question text

Which built-in Python function is used to sort data?

Question 13 Answer

○
a.
arrange()
○
b.
sort()
○
c.
order()
◉
d.
sorted()

Question 14

Complete
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Question text

In the context of sorting, what does the divide-and-conquer approach involve?

Question 14 Answer

○
a.
Sorting data sequentially
◉
b.
Dividing the input into parts, solving each part, and combining the solutions
○
c.
Sorting data in a single pass
○

d.
Rearranging data without sorting

Question 15

Complete
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Question text

What is the primary benefit of using sorting algorithms in programming?

Question 15 Answer

a.
Decreases the efficiency of algorithms

b.
Makes data harder to manage

c.
Provides a basis for other algorithms to work efficiently

d.
Makes code execution slower

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