CS23336-Introduction to Python Programming

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Question 1

Complete
Marked out of 1.00
Flag question

Question text

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

Question 1 Answer

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

Question 2

Complete
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Question text

_____ explain how an algorithm will perform when the input grows larger.

Question 2 Answer

○ a. Sorting

○ b. Merging

◉ c. Complexity

○ d. Searching

Question 3

Complete
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Question text

Very slow way of sorting is_____

Question 3 Answer

○
a.

Heap sort

◉
b.

Bubble sort

○
c.

Quick sort

○
d.

Insertion sort

Question 4

Complete
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Question text

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

Question 4 Answer

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

Question 5

Complete
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Question text

Which of the following best describes the process of Merge Sort?

Question 5 Answer

○
a.
It builds a sorted array one element at a time
◉
b.
It divides the list into two halves, sorts each half, and then merges them
○
c.

It repeatedly finds the minimum element and moves it to the sorted part of the list
○
d.
It compares adjacent elements and swaps them if necessary

Question 6

Complete
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Question text

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

Question 6 Answer

◉
a.
Dividing the input into parts, solving each part, and combining the solutions
○
b.
Sorting data in a single pass
○
c.
Rearranging data without sorting
○
d.
Sorting data sequentially

Question 7

Complete
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Question text

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

Question 7 Answer

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

Question 8

Complete
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Question text

Two-way merge sort algorithm is used to sort the following elements in ascending order.
200,470,150,80,90,40,400,300,120,70
What is the order of these elements after second pass of the merge sort algorithm?

Question 8 Answer

◉
a.

80,150,200,470,40,90,300,400,70,120

○

b.

40,80,90,150,200,300,400,470,70,120

○
c.

40,70,80,90,120,150,200,300,400,470

○
d.

200,470,80,150,40,90,300,400,70,120

Question 9

Complete
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Question text

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

Question 9 Answer

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

Question 10

Complete
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Question text

What is sorting in the context of computer science?

Question 10 Answer

◉
a.
Arranging data in a particular format
○
b.
Inserting data into a list
○
c.
Deleting data from a list
○
d.
Searching for data in a list

Question 11

Complete
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Question text

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

Question 11 Answer

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

Question 12

Complete
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Question text

What is a characteristic of the merge sort algorithm?

Question 12 Answer

○
a.
It sorts data using a single pass
○
b.
It is less efficient than bubble sort
○
c.
It does not require recursion
◉
d.
It is based on the divide-and-conquer approach

Question 13

Complete
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Flag question

Question text

Which Python function would you use to sort a list in-place?

Question 13 Answer

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

Question 14

Complete
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Question text

What is mean by stable sorting algorithm?

Question 14 Answer

Question 14 Answer

○
a.

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

○
d.

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

Question 15

Complete
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Question text

What is one of the first steps in a divide-and-conquer algorithm like Merge Sort?

Question 15 Answer

◉
a.
Dividing the input into smaller subproblems

○
b.
Sorting the entire list sequentially

○
c.
Combining sorted sublists

○
d.
Comparing each element with the others

Finish review

Skip Quiz navigation

Quiz navigation

Question 1 This page Question 2 This page Question 3 This page Question 4 This page Question 5 This page Question 6 This page Question 7 This page Question 8 This page Question 9 This page Question 10 This page Question 11 This page Question 12 This page Question 13 This page Question 14 This page Question 15 This page

Show one page at a time Finish review