CS23336-Introduction to Python Programming

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Question 1

Complete
Marked out of 1.00
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Question text

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

Question 1 Answer

- a. Merge Sort
- b. Linear Search
- c. Bubble Sort
- d. Binary Search

Question 2

Complete
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Question text

How does Merge Sort achieve its efficiency?

Question 2 Answer

- a. By breaking the input into smaller parts and merging them
- b. By sorting data in a single pass
- c. By using the bubble-up method
- d. By comparing elements sequentially

Question 3

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 3 Answer

○
a.

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

◉
b.

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

○
c.

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

○
d.

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

Question 4

Complete
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Question text

Algorithm design technique used in merge sort algorithm is

Question 4 Answer

◉
a.

Divide and conquer

○
b.

Greedy method

○
c.

Dynamic programming

○
d.

Backtracking

Question 5

Complete
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Question text

What is a significant characteristic of Bubble Sort?

Question 5 Answer

○
a.
It divides the list into sublists
◉
b.
It bubbles up the largest element in each pass
○
c.
It uses the heap data structure

○
d.
It recursively sorts subproblems

Question 6

Complete
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Question text

Why is sorting important for selection operations?

Question 6 Answer

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

Question 7

Complete
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Question text

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

Question 7 Answer

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

Question 8

Complete
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Question text

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

Question 8 Answer

○
a.
Decreases the efficiency of algorithms
○
b.
Makes data harder to manage
○
c.
Makes code execution slower

◉
d.
Provides a basis for other algorithms to work efficiently

Question 9

Complete
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Question text

Which sorting algorithm involves comparing elements and swapping adjacent items that are out of order?

Question 9 Answer

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

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.
Bubbling up the largest element to its correct position
○
c.
Dividing the list into halves
○
d.
Bubbling up the smallest element

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.
Bubble Sort
◉
b.
Merge Sort
○
c.
Insertion Sort

○
d.
Quick Sort

Question 12

Complete
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Question text

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

Question 12 Answer

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

Question 13

Complete
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Question text

What is Bubble Sort known for?

Question 13 Answer

○
a.
Sorting data in a non-sequential manner
○
b.
Using the divide-and-conquer approach
◉
c.
Bubbling up the largest element to its correct position with each pass
○
d.
Being the most efficient sorting algorithm

Question 14

Complete
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Question text

In Merge Sort, what happens after dividing the input into smaller parts?

Question 14 Answer

○
a.
Each part is searched for a specific element
○
b.
The parts are merged without sorting
○
c.
The parts are ignored

◉
d.
Each part is sorted independently

Question 15

Complete
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Question text

What is mean by stable sorting algorithm?

Question 15 Answer

○
a.

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

◉
b.

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

○
c.

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

○
d.

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

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