CS23336-Introduction to Python Programming

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Question 1

Complete
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Question text

What is one of the key advantages of using the built-in sorted() function in Python?

Question 1 Answer

○ a. It requires external libraries
○ b. It is less efficient than custom sorting algorithms
○ c. It only works with integer arrays
◉ d. It sorts data out of the box efficiently

Question 2

Complete
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Question text

What is mean by stable sorting algorithm?

Question 2 Answer

○ a. A sorting algorithm is stable if it preserves the order of all 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 non-duplicate keys

Question 3

Complete
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Question text

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

Question 3 Answer

○
a.
Bubbling up the smallest element

◉
b.
Bubbling up the largest element to its correct position

○
c.
Dividing the list into halves

○
d.
Sorting the entire list in one pass

Question 4

Complete
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Question text

The process of placing or rearranging a collection of elements into a particular order is known as

Question 4 Answer

◉
a.

Sorting

○
b.

Rearranging

○
c.
Merging

○
d.

Searching

Question 5

Complete
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Question text

In Merge Sort, what happens after the two halves of the list are sorted?

Question 5 Answer

◉
a.
They are combined to form a single sorted list

○
b.
They are discarded

○
c.
They are compared element by element

○

d.
They are split again into smaller sublists

Question 6

Complete
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Question text

How does Merge Sort achieve its efficiency?

Question 6 Answer

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

Question 7

Complete
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Question text

Very slow way of sorting is_____

Question 7 Answer

○
a.

Quick sort

○
b.

Heap sort

○
c.

Bubble sort

◉
d.

Insertion sort

Question 8

Complete
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Question text

Algorithm design technique used in merge sort algorithm is

Question 8 Answer

○
a.

Backtracking

○
b.

Dynamic programming

◉
c.

Divide and conquer

○
d.

Greedy method

Question 9

Complete
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Question text

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

Question 9 Answer

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

Question 10

Complete
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Question text

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

Question 10 Answer

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

Question 11

Complete

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Question text

What is a significant characteristic of Bubble Sort?

Question 11 Answer

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

Question 12

Complete
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Question text

What is a key disadvantage of Bubble Sort compared to more advanced algorithms like Merge Sort?

Question 12 Answer

○
a.
Bubble Sort cannot handle duplicate elements
○
b.
Bubble Sort does not guarantee sorted order
◉
c.
Bubble Sort is less efficient for large lists
○
d.
Bubble Sort is difficult to implement

Question 13

Complete
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Question text

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

Question 13 Answer

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

Question 14

Complete

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Question text

What is sorting in the context of computer science?

Question 14 Answer

a.
Deleting data from a list

b.
Searching for data in a list

c.
Arranging data in a particular format

d.
Inserting data into a list

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.
Comparing each element with the others

b.
Combining sorted sublists

c.
Dividing the input into smaller subproblems

d.
Sorting the entire list sequentially

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