CS23336-Introduction to Python Programming

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Question 1

Complete
Marked out of 1.00
Flag question

Question text

Which of the following best describes the term "sorting" in computer science?

Question 1 Answer

○ a. Merging two datasets
◉ b. Arranging data in a specific order
○ c. Removing duplicates from a list
○ d. Finding a specific element in a list

Question 2

Complete
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Question text

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

Question 2 Answer

○ a. Decreases the efficiency of algorithms
◉ b. Provides a basis for other algorithms to work efficiently
○ c. Makes code execution slower
○ d. Makes data harder to manage

Question 3

Complete
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Question text

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

Question 3 Answer

○
a.
order()
○
b.
arrange()
○
c.
sorted()
◉
d.
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.
Bubble Sort
○
d.
Quick Sort

Question 5

Complete
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Question text

What is sorting in the context of computer science?

Question 5 Answer

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

Question 6

Complete
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Question text

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

Question 6 Answer

Question 6 Answer

○
a.
Comparing each element with the others
◉
b.
Dividing the input into smaller subproblems
○
c.
Sorting the entire list sequentially
○
d.
Combining sorted sublists

Question 7

Complete
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Question text

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

Question 7 Answer

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

Question 8

Complete
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Flag question

Question text

What is Bubble Sort known for?

Question 8 Answer

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

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

Question 10

Complete
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Question text

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

Question 10 Answer

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

Question 11

Complete
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Flag question

Question text

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

Question 11 Answer

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

Question 12

Complete
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Flag question

Question text

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

Question 12 Answer

○
a.
It compares adjacent elements and swaps them if necessary

◉
b.
It divides the list into two halves, sorts each half, and then merges them

○
c.
It builds a sorted array one element at a time

○
d.
It repeatedly finds the minimum element and moves it to the sorted part of the list

Question 13

Complete
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Flag question

Question text

_____is putting an element in the appropriate place in a sorted list yields a larger sorted order list.

Question 13 Answer

○
a.

Distribution

◉
b.

Insertion

○
c.

Selection

○
d.

Extraction

Question 14

Complete
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Question text

Very slow way of sorting is_____

Question 14 Answer

○
a.

Heap sort

○
b.

Quick sort

○
c.

Insertion sort

◉
d.

Bubble sort

Question 15

Complete
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Question text

Which of the following is a key reason for the importance of sorting algorithms?

Question 15 Answer

○
a.
Sorting decreases the efficiency of selection operations
○
b.
Sorting is rarely used in programming
◉
c.
Sorting helps in finding duplicates quickly
○
d.
Sorting makes it harder to search for items

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