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CS23336-Introduction to Python Programming

Started on	Saturday, 9 November 2024, 4:44 PM
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Completed on	Saturday, 9 November 2024, 4:51 PM
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Question 1

Complete

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Question text

What is a characteristic of the merge sort algorithm?

Question 1 Answer

a. It sorts data using a single pass

b. It does not require recursion

c. It is less efficient than bubble sort

d.

It is based on the divide-and-conquer approach

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 avoids the need for recursion

b.
It only works on small datasets

c.
It allows for efficient parallel processing and sorting of data

d.
It simplifies the sorting process by using only one pass

Question 3

Complete

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Question text

Why is sorting important for selection operations?

Question 3 Answer

a.
It slows down the process

b.
It makes it easier to select items based on their relationship to the rest of the items

c.
It makes the data unsorted

d.
It complicates the selection of items

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.
Linear Search

b.
Bubble Sort

c.
Quick Sort

◉
d.
Merge Sort

Question 5

Complete

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Flag question

Question text

What type of problems can sorting help solve efficiently?

Question 5 Answer

○
a.
Searching

◉
b.
All of the above

○
c.
Duplicates

○
d.
Selection

Question 6

Complete

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Question text

What is sorting in the context of computer science?

Question 6 Answer

○ a. Searching for data in a list

◉ b. Arranging data in a particular format

○ c. Deleting data from a list

○ d. Inserting data into a list

Question 7

Complete

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Flag question

Question text

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

Question 7 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 compares adjacent elements and swaps them if necessary

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

Question 8

Complete

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Flag question

Question text

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

Question 8 Answer

a.
Decreases the efficiency of algorithms

b.
Makes code execution slower

c.
Makes data harder to manage

d.
Provides a basis for other algorithms to work efficiently

Question 9

Complete

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Flag question

Question text

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

Question 9 Answer

◉ a. Each part is sorted independently

○ b. The parts are ignored

○ c. The parts are merged without sorting

○ d. Each part is searched for a specific element

Question 10

Complete

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Flag question

Question text

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

Question 10 Answer

○ a. order()

○ b. sort()

◉
c.
sorted()

○
d.
arrange()

Question 11

Complete

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Question text

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

Question 11 Answer

○
a.
It makes the search operation slower

○
b.
It increases the number of comparisons needed

◉
c.
It allows for faster searching

○
d.
It has no effect on the search operation

Question 12

Complete

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Question text

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

Question 12 Answer

a. Binary Search

b. Merge Sort

c. Bubble Sort

d. Linear Search

Question 13

Complete

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Question text

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

Question 13 Answer

a. They are compared element by element

b.
They are discarded

c.
They are combined to form a single sorted list

d.
They are split again into smaller sublists

Question 14

Complete

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Question text

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

Question 14 Answer

a.
Complexity

b.
Merging

c.
Searching

d.
Sorting

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 is rarely used in programming

b. Sorting helps in finding duplicates quickly

c. Sorting decreases the efficiency of selection operations

d. Sorting makes it harder to search for items

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