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REC-OCATS-1 REC-OCATS-1

CS23336-Introduction to Python Programming

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Question 1

Complete
Marked out of 1.00
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Question text

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

Question 1 Answer

a.
Bubble Sort

b.
Merge Sort

c.
Linear Search

d.
Quick Sort

Question 2

Complete
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Question text

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

Question 2 Answer

a.
Bubble Sort

b.
Linear Search

c.
Merge Sort

d.
Binary Search

Question 3

Complete
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Question text

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

Question 3 Answer

a.
Bubble Sort is difficult to implement

b.
Bubble Sort does not guarantee sorted order

c.
Bubble Sort cannot handle duplicate elements

d.
Bubble Sort is less efficient for large lists

Question 4

Complete
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Question text

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

Question 4 Answer

a.
It sorts data out of the box efficiently

b.
It requires external libraries

c.
It only works with integer arrays

d.
It is less efficient than custom sorting algorithms

Question 5

Complete
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Question text

Algorithm design technique used in merge sort algorithm is

Question 5 Answer

a.

Greedy method

b.

Dynamic programming

c.

Backtracking

d.

Divide and conquer

Question 6

Complete
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Question text

What is Bubble Sort known for?

Question 6 Answer

a.
Being the most efficient sorting algorithm

b.
Sorting data in a non-sequential manner

c.
Using the divide-and-conquer approach

d.
Bubbling up the largest element to its correct position with each pass

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

b.
It compares adjacent elements and swaps them if necessary

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

d.
It builds a sorted array one element at a time

Question 8

Complete
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Flag question

Question text

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

Question 8 Answer

a.
It has no effect on the search operation

b.
It makes the search operation slower

c.
It increases the number of comparisons needed

d.
It allows for faster searching

Question 9

Complete
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Question text

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

Question 9 Answer

a.
Dividing the input into parts, solving each part, and combining the solutions

b.
Sorting data sequentially

c.
Rearranging data without sorting

d.
Sorting data in a single pass

Question 10

Complete
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Question text

What type of problems can sorting help solve efficiently?

Question 10 Answer

a.
Selection

b.
Searching

c.
Duplicates

d.
All of the above

Question 11

Complete
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Flag question

Question text

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

Question 11 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 12

Complete
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Question text

Which sorting algorithm is known for its simplicity and sequential comparison of elements?

Question 12 Answer

a.
Bubble Sort

b.
Quick Sort

c.
Heap Sort

d.
Merge Sort

Question 13

Complete
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Question text

How does Merge Sort achieve its efficiency?

Question 13 Answer

a.
By using the bubble-up method

b.
By breaking the input into smaller parts and merging them

c.
By comparing elements sequentially

d.
By sorting data in a single pass

Question 14

Complete
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Flag question

Question text

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

Question 14 Answer

a.
They are discarded

b.
They are split again into smaller sublists

c.
They are compared element by element

d.
They are combined to form a single sorted list

Question 15

Complete
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Flag question

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 makes it harder to search for items

c.
Sorting is rarely used in programming

d.
Sorting helps in finding duplicates quickly

Finish review

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