CS23336-Introduction to Python Programming

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Question 1

Complete
Marked out of 1.00
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Question text

In a linear search, how many comparisons are made in the worst-case scenario to find an element in a list of size n?

Question 1 Answer

○ a. 1
◉ b. n
○ c. log n
○ d. n/2

Question 2

Complete
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Question text

What is searching in the context of computer science?

Question 2 Answer

◉ a. Determining whether an element is present in a list
○ b. Deleting elements from a list
○ c. Inserting elements into a list
○ d. Sorting elements in a list

Question 3

Complete
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Question text

What happens in a binary search if the list has an even number of elements?

Question 3 Answer

◉
a.
The lower middle element is chosen as the middle element
○
b.
The search stops
○
c.
The middle element is chosen randomly
○
d.
The higher middle element is chosen as the middle element

Question 4

Complete
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Question text

Given an array arr = {45,77,89,90,94,99,100} and key = 99; what are the mid values(corresponding array elements) in the first and second levels of recursion?

Question 4 Answer

○
a.

89 and 99

○
b.

89 and 94

◉
c.

90 and 99

○
d.

90 and 94

Question 5

Complete
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Flag question

Question text

Which of the following scenarios is best suited for applying binary search?

Question 5 Answer

○
a.
When the list contains duplicate elements
○
b.
When the list is very small
○
c.
When the list is unsorted
◉
d.
When the list is sorted

Question 6

Complete
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Flag question

Question text

What is the time complexity of binary search in the worst case?

Question 6 Answer

◉
a.
O(n log n)

○
b.
O(log n)

○
c.
O(n)

○
d.
O(1)

Question 7

Complete
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Question text

If the target element is greater than the middle element in binary search, where does the search continue?

Question 7 Answer

○
a.
At the beginning of the list

○
b.
In the middle of the list

◉
c.
In the left sublist

○
d.
In the right sublist

Question 8

Complete
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Flag question

Question text

The average case occurs in the linear search algorithm

Question 8 Answer

○
a.

When the item is the last element in the array

○
b.

Item is the last element in the array or item is not there at all

◉
c.

When the item is somewhere in the middle of the array

○

d.

When the item is not the array at all

Question 9

Complete
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Question text

If a list contains 1000 elements, how many comparisons would a binary search typically make in the worst case?

Question 9 Answer

◉
a.
100
○
b.
1000
○
c.
10
○
d.
500

Question 10

Complete
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Question text

_____ search takes a sorted/ordered list and divides it in the middle.

Question 10 Answer

◉
a.

Binary

○
b.

Linear

○
c.

Hash

○
d.

Both (1) & (3)

Question 11

Complete
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Flag question

Question text

In binary search, what happens if the middle element does not match the target element?

Question 11 Answer

○

a.
The search continues from the beginning
◉
b.
The search continues in the left or right sublist
○
c.
The search stops
○
d.
The list is sorted

Question 12

Complete
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Question text

Given an array arr = {45,77,89,90,94,99,100} and key = 100; What are the mid values(corresponding array elements) generated in the first and second iterations?

Question 12 Answer

○
a.

89 and 94

◉
b.

90 and 99

○
c.

94 and 99

○
d.

90 and 100

Question 13

Complete
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Flag question

Question text

Which of the following is a type of searching method?

Question 13 Answer

○
a.
Bubble search
◉
b.
Linear search
○
c.
Quick search
○
d.
Merge search

Question 14

Complete

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Remove flag

Question text

Which of the following is a limitation of binary search?

Question 14 Answer

a.
It does not work with negative numbers

b.
It can only be applied to large lists

c.
It is slower than linear search for small lists

d.
It requires the list to be sorted

Question 15

Complete
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Question text

In which situation is linear search more efficient than binary search?

Question 15 Answer

a.
When the list is small and sorted

b.
When the list is small and unsorted

c.
When the list is large and sorted

d.
When the list is large and unsorted

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