CS23336-Introduction to Python Programming

Started on	Sunday, 10 November 2024, 6:06 PM
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Question 1

Complete
Marked out of 1.00
Flag question

Question text

In binary search, if the target element is less than the middle element, where does the search continue?

Question 1 Answer

○ a. At the beginning of the list
◉ b. In the left sublist
○ c. In the right sublist
○ d. In the entire list

Question 2

Complete
Marked out of 1.00
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Question text

During a linear search, what is the maximum number of comparisons needed to find an element in a list of size n?

Question 2 Answer

○ a. n-1
◉ b. n
○ c. log n
○ d. n/2

Question 3

Complete
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Question text

Which of the following is a limitation of binary search?

Question 3 Answer

○
a.
It can only be applied to large lists
◉
b.
It requires the list to be sorted
○
c.
It is slower than linear search for small lists
○
d.
It does not work with negative numbers

Question 4

Complete
Marked out of 1.00
Flag question

Question text

In _____ checks the elements of a list, one at a time, without skipping any element.

Question 4 Answer

○
a.

Both (1) & (3)

◉
b.

Linear search

○
c.

Binary search

○
d.

Hash search

Question 5

Complete
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Flag question

Question text

What happens when the element is found in linear search?

Question 5 Answer

○
a.
The search backtracks to find duplicate elements
○
b.
The search continues until the end of the list
○
c.
The search starts over from the beginning
◉
d.
The search stops immediately

Question 6

Complete
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Flag question

Question text

What is the best-case time complexity of linear search?

Question 6 Answer

○
a.
O(log n)
○
b.
O(n)
○
c.
O(n log n)
◉
d.
O(1)

Question 7

Complete
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Flag question

Question text

In binary search, how is the middle element determined?

Question 7 Answer

○
a.
By comparing each element sequentially
○
b.
By using a hash function
○
c.
By starting from the first element
◉
d.
By dividing the list length by two

Question 8

Complete
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Question text

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

Question 8 Answer

○
a.

Hash

◉
b.

Binary

○
c.

Both (1) & (3)

○
d.

Linear

Question 9

Complete
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Flag question

Question text

In linear search, if the target element is not found in the list, what is the result?

Question 9 Answer

◉
a.
The search is considered unsuccessful
○
b.
An error is raised
○
c.
The first element is returned
○
d.
The last element is returned

Question 10

Complete
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Flag question

Question text

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

Question 10 Answer

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

Question 11

Complete
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Flag question

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 11 Answer

◉
a.
n
○
b.
1
○

c.
n/2
◯
d.
log n

Question 12

Complete
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Flag question

Question text

During a binary search, what happens if the target element matches the middle element?

Question 12 Answer

◯
a.
The list is sorted
◯
b.
The search continues in the right sublist
◯
c.
The search continues in the left sublist
◉
d.
The search ends successfully

Question 13

Complete
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Flag question

Question text

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

Question 13 Answer

◯
a.
O(log n)
◉
b.
O(n)
◯
c.
O(n log n)
◯
d.
O(1)

Question 14

Complete
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Flag question

Question text

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

Question 14 Answer

◉
a.
When the list is sorted
◯
b.
When the list is unsorted
◯

c.
When the list contains duplicate elements
◯
d.
When the list is very small

Question 15

Complete
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Question text

What is the advantage of binary search over linear search?

Question 15 Answer

◯
a.
Binary search can find multiple instances of the target element
◯
b.
Binary search does not require dividing the list
◯
c.
Binary search works on unsorted lists
◉
d.
Binary search has a lower time complexity on large, sorted lists

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