

CS502:Grand Quiz

Question # 1 of 30 (Start time: 09:40:33 PM, 27 June 2020)

Merge sort have running time.....running time of Heap sort.

Select the correct option

☐	Greater than
☒	Less than
☐	Equal to
☐	Different than

[Redacted]
[Redacted]

Question # 2 of 30 (Start time: 09:41:56 PM, 27 June 2020)

Median is not useful measure of central tendency of given input set especially when the distribution of values is highly skewed.

Select the correct option

☐	True
☒	False



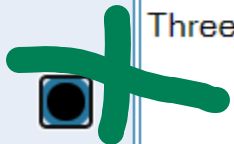


Question # 5 of 30 (Start time: 09:46:00 PM, 27 June 2020)

Quick sort algorithm divide the entire array into ----- sub arrays.

Select the correct option

☐	One
☐	Two
☒	Three
☐	Four



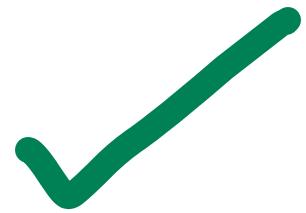
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Question # 6 of 30 (Start time: 09:47:07 PM, 27 June 2020)

We do not need to mathematically prove that for comparison-based sorting algorithms always takes $\Omega(n \log n)$ time.

Select the correct option

☒	True
☐	False



Question # 7 of 30 (Start time: 09:48:06 PM, 27 June 2020)

The Omega-notation allows us to state only the asymptotic _____ bounds.

Select the correct option

☐	Middle
☒	Lower
☐	Upper
☐	Both lower & upper

Question # 8 of 30 (Start time: 09:49:37 PM, 27 June 2020)

Sorting can be in _____

Select the correct option

- | | |
|-------------------------------------|--------------------------------------|
| ☐ | Increasing order only |
| ☐ | Decreasing order only |
| ☒ | Both Increasing and Decreasing order |
| ☐ | Random order |



Question # 9 of 30 (Start time: 09:50:05 PM, 27 June 2020)

Following is not the application of Edit Distance problem.

Select the correct option

☐	Speech recognition
☐	Spelling Correction
☒	Ascending Sort
☐	Computational Molecular Biology



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Question # 10 of 30 (Start time: 09:51:01 PM, 27 June 2020)

In plane sweep approach, a vertical line is swept across the 2d-plane and _____ structure is used for holding the maximal points lying to the left of the sweep line.

Select the correct option

☐	Array
☐	Queue
☒	Stack
☐	Tree

Question # 11 of 30 (Start time: 09:52:11 PM, 27 June 2020)

When a heapify procedure is applied to the root node to restore the heap, then at each level, the comparison performed takes time:

Select the correct option



It will take $\Theta(\log n)$.



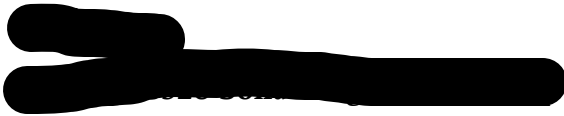
It can not be predicted.



It will take $\Theta(1)$.



Time will vary according to the nature of input data.

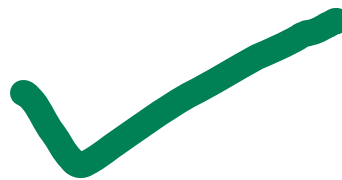


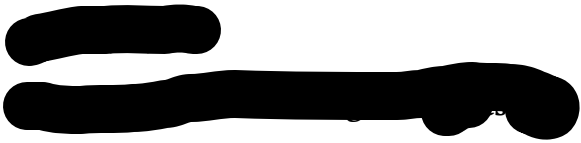
Question # 12 of 30 (**Start time: 09:53:55 PM, 27 June 2020**)

_____ time is the maximum running time over all legal inputs.

Select the correct option

☒	Worst-case
☐	Average-case
☐	Best-case
☐	Good-case





Question # 13 of 30 (Start time: 09:54:39 PM, 27 June 2020)

Efficient algorithm requires less computational

Select the correct option

- | | |
|----------------------------------|-------------------------|
| ☐ | Memory |
| ☐ | Running Time |
| ☒ | Memory and Running Time |
| ☐ | Energy |



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Question # 14 of 30 (Start time: 09:55:50 PM, 27 June 2020)

Best _____ helps in minimizing algorithm cost.

Select the correct option

- | | |
|----------------------------------|----------|
| ☐ | Input |
| ☐ | Output |
| ☐ | Analysis |
| ☒ | Design |

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Question # 15 of 30 (Start time: 09:57:14 PM, 27 June 2020)

For average-case time analysis of Quick sort algorithm, Pivot selection is on average basis from _____

Select the correct option

- | | |
|----------------------------------|----------------------------|
| ☐ | half of the input values |
| ☐ | all possible random values |
| ☒ | Pivot is input separately |
| ☐ | values greater than 5 |



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Question # 16 of 30 (Start time: 09:58:25 PM, 27 June 2020)

Selection algorithm takes theta _____

Select the correct option

- | | |
|----------------------------------|------------|
| ☐ | (n^2) |
| ☒ | (n) |
| ☐ | $\log(n)$ |
| ☐ | $n\log(n)$ |



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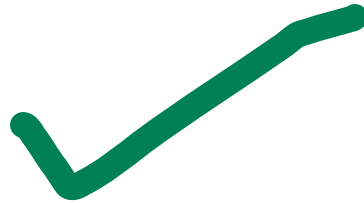
Question # 17 of 30 (Start time: 09:59:31 PM, 27 June 2020)

Recurrence can be described in terms of a tree.

Select the correct option



Yes



No

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Question # 18 of 30 (Start time: 10:00:28 PM, 27 June 2020)

Time complexity of Dynamic Programming based algorithm for computing the minimum cost of Chain Matrix Multiplication is _____.

Select the correct option

- | | |
|----------------------------------|------------------|
| ☐ | $\log n$ |
| ☐ | n |
| ☐ | n^2 (n square) |
| ☒ | n^3 (n cube) |



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Question # 19 of 30 (**Start time: 10:02:18 PM, 27 June 2020**)

In order to say anything meaningful about our algorithms, it will be important for us to settle on a _____.

Select the correct option

- | | |
|----------------------------------|-----------------------------------|
| ☐ | Java Program |
| ☐ | C++ Program |
| ☐ | Pseudo program |
| ☒ | Mathematical model of computation |



00:14:18

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Question # 20 of 30 (Start time: 10:03:10 PM, 27 June 2020)

The Iteration method is used for _____

Select the correct option

- | | |
|----------------------------------|-----------------------------------|
| ☐ | Comparing sorting algorithms only |
| ☒ | Solving Recurrence relations |
| ☐ | Merging elements in Merge sort |
| ☐ | Dividing elements in Merge sort |





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Question # 21 of 30 (**Start time: 10:04:22 PM, 27 June 2020**)

In 3-Dimensional space, a point P has _____ coordinate(s).

Select the correct option

- | | |
|----------------------------------|-----------|
| ☐ | (X, Y) |
| ☐ | (X, 0) |
| ☐ | (0, Y) |
| ☒ | (X, Y, Z) |



Question # 22 of 30 (Start time: 10:05:16 PM, 27 June 2020)

Chain matrix multiplication problem can be solved through ----- strategy.

Select the correct option

- | | |
|----------------------------------|---------------------|
| ☒ | Dynamic programming |
| ☐ | Greedy |
| ☐ | Divide and conquer |
| ☐ | Sorting |



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Quiz Start I

Question # 23 of 30 (Start time: 10:06:35 PM, 27 June 2020)

In max heap (for Heap Sort algorithm), when every time maximum element is removed from top we replace it with _____ leaf in the tree.

Select the correct option

☐	Second last
☒	Last
☐	First
☐	Any

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Question # 24 of 30 (Start time: 10:07:58 PM, 27 June 2020)

Sorting is one of the _____ problems in Computer Sciences.

Select the correct option

- | | |
|----------------------------------|---------------|
| ☐ | Easiest |
| ☒ | Solution-less |
| ☐ | Least popular |
| ☐ | Most popular |

Question # 25 of 30 (Start time: 10:09:52 PM, 27 June 2020)

Quick sort algorithm was developed by _____

Select the correct option

- | | |
|----------------------------------|------------------------|
| ☐ | Alfred Aho |
| ☐ | Sedgewick |
| ☐ | John Vincent Atanasoff |
| ☒ | Tony Hoare |



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Quiz Start Time:

Question # 26 of 30 (Start time: 10:10:38 PM, 27 June 2020)

If Matrix-A has dimensions "3x2" and Matrix-B has dimensions "2x3", then multiplication of Matrix-A and Matrix-B will result a new Matrix-C having dimensions

Select the correct option

☐	3x2
☐	2x3
☐	2x2
☒	3x3



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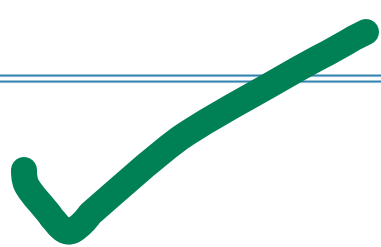
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Question # 27 of 30 (**Start time: 10:11:58 PM, 27 June 2020**)

In selection problem, the rank of an element will be its _____ position if we sort the input data.

Select the correct option

☐	first
☒	final
☐	Second last
☐	Last



Your internet connection



Question # 28 of 30 (Start time: 10:13:54 PM, 27 June 2020)

For comparison-based sorting algorithms, it is _____ possible to sort more efficiently than $\Omega(n \log n)$ time.

Select the correct option

☐	Always
☒	Not
☐	Sometimes
☐	Sometimes not



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Question # 29 of 30 (**Start time: 10:15:38 PM, 27 June 2020**)

Dynamic Programming approach is usually useful in solving optimization problems.

Select the correct option

☐	True
☒	False

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Question # 29 of 30 (**Start time: 10:15:38 PM, 27 June 2020**)

Dynamic Programming approach is usually useful in solving optimization problems.

Select the correct option

True



False





Question # 30 of 30 (**Start time: 10:17:26 PM, 27 June 2020**)

In Sorting the key value or attribute _____ from an ordered domain.

Select the correct option

☒	Must be
☐	Not always





Question # 3 of 30 (Start time: 10:23:46 PM, 27 June 2020)

Result of asymptotical analysis of $n(n - 3)$ and $4n*n$ is that _____.

Select the correct option

- | | |
|----------------------------------|--|
| ☐ | $n(n-1)$ is asymptotically Less |
| ☐ | $n(n-1)$ is asymptotically Greater |
| ☒ | Both are asymptotically Not equivalent |
| ☐ | Both are asymptotically Equivalent |



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[Redacted]

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Question # 4 of 30 (Start time: 10:24:47 PM, 27 June 2020)

Floor and ceiling are _____ to calculate while analyzing algorithms.

Select the correct option

☐	Very easy
☒	Usually considered difficult



Question # 5 of 30 (Start time: 10:25:55 PM, 27 June 2020)

.....of reference is an important fact of current processor technology.

Select the correct option

☐	Defining
☐	Assigning
☐	Formality
☒	Locality

