



CS-502 Fundamentals Of Algorithms
Update MCQS For Quiz-2 File
Solve By Vu Topper RM



80 To 100% Marks



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Question No: 01

(Marks:1)

Vu-Topper RM

There are _____ entries in the Edit Distance Matrix.

A. $\Theta(n)$

B. $\Theta(n^2)$

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C. $\Theta(n+2)$

D. $\Theta(n + 100)$

Question No: 02

(Marks:1)

Vu-Topper RM

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

A. All possible random values

Page 50

B. Pivot is input separately

C. Values greater than 5

Question No: 03

(Marks:1)

Vu-Topper RM

As per algorithm of dynamic programming, we need to store the result(s) of _____.

A. First sub-problem only

B. Best solution only

C. Intermediate sub-problems

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D. Final solution only

Question No: 04

(Marks:1)

Vu-Topper RM

In chain matrix multiplication, table is filled _____ to find the multiplication of matrix.

A. row wise

B. column wise

C. diagonally

D. bottom-to-up

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Question No: 05

(Marks:1)

Vu-Topper RM

The only way to convert a string of i characters into the empty string is with i deletions, represented as

A. $E(0,j) = j$

B. $E(i,j) = 1$

C. $E(0,i) = j$

D. $E(i,0) = i$

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Question No: 06

(Marks:1)

Vu-Topper RM

If there are $\theta(n^2)$ entries in edit distance matrix then the total running time is:

A. $\theta(n)$

B. $\theta(1)$

C. $\theta(n^2)$

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D. $\theta(n \log n)$

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Question No: 07

(Marks:1)

Vu-Topper RM

In average –case time analysis of quick sort algorithm , the most balanced case for partition is when we divide the list of elements into _.

A. Equal no. of pieces as of input elements

- B. Single piece exactly
- C. Two nearly equal pieces
- D. Three nearly equal pieces

Question No: 08

(Marks:1)

Vu-Topper RM

If matrix A of dimension $p \times q$ is multiplied with matrix B of dimension $q \times r$, then each entry in resultant matrix takes _____ time.

A. $O(q)$

Page 84

- B. (1)
- C. $(p \times q)$
- D. $(q \times r)$

Question No: 09

(Marks:1)

Vu-Topper RM

Fibonacci Sequence was named on _____, a famous mathematician in 12th Century.

- A. Fred Brooks
- B. Grady Booch

C. Leonardo Pisano

Page 73

- D. Edgar F. Codd

Question No: 10

(Marks:1)

Vu-Topper RM

In quick sort algorithm, we choose pivot_____.

- A. Always the smallest element
- B. Greater than 5

C. Randomly

Page 35

- D. Less than 5

Question No: 11

(Marks:1)

Vu-Topper RM

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

- A. Always
- B. Sometimes not

C. NOT

Page 54

- D. Sometimes

Question No:12

(Marks:1)

Vu-Topper RM

The sequence of merge sort algorithm is:

- A. Divide Combine-Conquer
- B. Conquer-Divide-Combine

C. Divide-Conquer-Combine

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- D. Combine-Divide-Conquer

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Question No: 13

(Marks:1)

Vu-Topper RM

In _____ Knapsack Problem, limitation is that an item can either be put in the bag or not. Fractional items are not allowed.

A. 0

B. 1

C. 0/1

D. Fractional

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Question No: 14

(Marks:1)

Vu-Topper RM

In Selection algorithm, we assume pivot selection takes theta _____ running time.

A. n

B. n^2

C. n^3

D. $\log(n)$

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Question No: 15

(Marks:1)

Vu-Topper RM

In Heap Sort algorithm (using max heap), when every time maximum elements removed from top _____.

A. We call merge Sort Algorithm

B. it becomes Order n^2 Algorithm

C. Divide and Conquer strategy helps us

D. We are left with a hole

Page 41

Question No: 16

(Marks:1)

Vu-Topper RM

_____ is a method of solving a problem in which we check all possible solutions to the problem to find the solution we need.

A. Plane-Sweep Algorithm

B. Sorting Algorithm

C. Brute-Force Algorithm

D. Greedy approach

Google

Question No: 17

(Marks:1)

Vu-Topper RM

The worst case running time of Quick sort algorithm _____.

A. Is quadratic

B. Is linear

C. Cannot be quadratic

D. Is always Exponential

Question No: 18

(Marks:1)

Vu-Topper RM

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

A. Last

B. First

C. Any

D. Second last

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Question No: 19

(Marks:1)

Vu-Topper RM

Quick sort algorithm was developed by –

- A. AlferdAho
- B. Sedgewick
- C. John Vincent Atanasoff

D. Tony Hoare

Google

Question No: 20

(Marks:1)

Vu-Topper RM

If Matrix-A has dimensions “ 3×2 ” and Matrix-B has dimensions “ 2×3 ”, then multiplication of Matrix-A and Matrix-B will result a new Matrix-C having dimensions.

- A. 3×2
- B. 2×3
- C. 2×2

D. 3×3

Question No: 21

(Marks:1)

Vu-Topper RM

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

A. Must be

Page 39

- B. Not always
- C. May be
- D. Occasionally

Question No: 22

(Marks:1)

Vu-Topper RM

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

- A. $n(n-1)$ is asymptotically Less
- B. $n(n-1)$ is asymptotically Greater
- C. Both are asymptotically Not equivalent

D. Both are asymptotically Equivalent

Page 23

Question No: 23

(Marks:1)

Vu-Topper RM

Floor and ceiling are _____ to calculate while analyzing algorithms

- A. Very easy
- B. 3rd Option is missing

C. Usually considered difficult

D. 4th Option is missing

Question No: 24

(Marks:1)

Vu-Topper RM

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

- A. Defining
- B. Assigning

C. Locality

Page 8

D. Formality

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Question No: 25

(Marks:1)

Vu-Topper RM

In max-heap, largest element is stored at root node. Where is the smallest element stored?

A. Right Node

B. Leaf Node

C. Middle Node

D. Left Node

Question No: 26

(Marks:1)

Vu-Topper RM

Which of the following is calculated with Big Omega notation?

A. Medium bounds

B. Upper bounds

C. Lower bounds

Page 25

D. Both upper and lower bounds

Question No: 27

(Marks:1)

Vu-Topper RM

Edit distance algorithm based on _____ strategy

A. Greedy

B. Dynamic Programming

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C. Divide and Conquer

D. Searching

Question No: 28

(Marks:1)

Vu-Topper RM

In Heapsort Algorithm, total time taken by heapify procedure is _____

A. $O(\log n)$

Page 43

B. $(\log^2 n)$

C. $(n \log n)$

D. $(n^2 \log n)$

Question No: 29

(Marks:1)

Vu-Topper RM

Al-Khwarizmi was a/an _____

Artist

A. Astronomer

B. Mathematication

Page 7

C. Khalifah

Question No: 30

(Marks:1)

Vu-Topper RM

When matrix A of 5×3 is multiplied with matrix B of 3×4 then the number of multiplications required will be _____.

A. 15

B. 12

C. 36

D. 60

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Question No: 31

(Marks:1)

Vu-Topper RM

Pseudo code of algorithms are to be read by _____.

A. People

Page 12

B. RAM

C. Computer

D. Compiler

Question No: 32

(Marks:1)

Vu-Topper RM

The sieve technique is a special case, where the number of sub-problems is Just _____

A. 1

Page 34

B. 2

C. 3

D. 4

Question No: 33

(Marks:1)

Vu-Topper RM

When a recursive algorithm revisits the same problem over and over again, we say that the optimization problem has _____ sub-problems.

A. Overlapping

Google

B. Over costing

C. Optimized

D. Three

Question No: 34

(Marks:1)

Vu-Topper RM

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

A. Java Program

B. C++ Program

C. Pseudo program

D. Mathematically model of computation

Question No: 35

(Marks:1)

Vu-Topper RM

Merge sort is based on _____.

A. Brute-force

B. Plan-sweep

C. Axis-sweep

D. Divide and Conquer

Question No: 36

(Marks:1)

Vu-Topper RM

What time does Merge Sort algorithm take in order to sort an array of 'n' numbers?

A. (n)

B. (log n)

C. (n²)

D. (n log n)

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Question No: 37 (Marks:1)
algorithm, the first step is to _____.

Vu-Topper RM

A. Call Build-Heap procedure

Page 46

- B. Sort the array in descending order
- C. Call Heapify procedure
- D. Find the number of input elements

Question No: 38 (Marks:1)

Vu-Topper RM

The definition of theta-notation relies on proving _____ asymptotic bound.

- A. One
- B. Lower
- C. Upper

D. Both lower & upper

Page 25

Question No: 39 (Marks:1)

Vu-Topper RM

In merge sort algorithm, to merge two lists of size $n/2$ to a list of size n , takes _____ time.

A. Theta (n)

Page 32

- B. Theta $\log(n)$
- C. Theta $\log^2(n)$
- D. Theta $n \log(n)$

Question No: 40 (Marks:1)

Vu-Topper RM

We can make _____ recursive calls in Fibonacci Sequence.

- A. Infinite
- B. Finite**
- C. Only one
- D. Zero

Google

Question No: 41 (Marks:1)

Vu-Topper RM

Following is NOT the application of Edit Distance problem.

- A. Speech recognition
- B. Spelling Correction

C. Ascending Sort

Page 76

- D. Computational Molecular Biology

Question No: 42 (Marks:1)

Vu-Topper RM

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.

- A. Tree
- B. Array
- C. Queue
- D. Stack**

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Question No: 43

(Marks:1)

Vu-Topper RM

Time will vary according to the nature of input data.

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

A. Worst-case

Page 13

B. Average-case

C. Best-case

D. Good-case

Question No: 44

(Marks:1)

Vu-Topper RM

Efficient algorithm requires less computational...

A. Memory

B. Running Time

C. Memory and Running Time

Page 9

D. Energy

Question No: 45

(Marks:1)

Vu-Topper RM

Selection algorithm takes theta _____

A. (n^2)

B. (n)

C. $\log(n)$

D. $n \log(n)$

Question No: 46

(Marks:1)

Vu-Topper RM

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

A. $\log n$

B. n

C. n^2 (n square)

D. n^3 (n cube)

Page 90

Question No: 47

(Marks:1)

Vu-Topper RM

The Iteration method is used for _____

A. Solving Recurrence relations

Page 31

B. Merging elements in Merge sort

C. Comparing sorting algorithms only

D. Dividing elements in Merge sort

Question No: 48

(Marks:1)

Vu-Topper RM

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

A. (X, Y)

B. (X, 0)

C. (0, Y)

D. (X, Y, Z)

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Question No: 49

(Marks:1)

Vu-Topper RM

Chain matrix multiplication problem can be solved through _____ strategy.

A. Dynamic programming

Page 85

B. Greedy

C. Divide and conquer

D. Sorting

Question No: 50

(Marks:1)

Vu-Topper RM

Merge sort have running time....running time of Heap sort. Not found exactly

A. Greater than

B. Less than

Google

C. Equal to

D. Different than

Question No: 51

(Marks:1)

Vu-Topper RM

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

A. Middle

B. Lower

Page 25

C. Upper

D. Both lower & upper

Question No: 52

(Marks:1)

Vu-Topper RM

Both lower & upper Sorting can be in _____

A. Random order

B. Increasing order only

C. Decreasing order only

D. Both Increasing and Decreasing order

Question No: 53

(Marks:1)

Vu-Topper RM

Quicksort is a/an _____ and _____ sorting algorithm.

A. Not in place, not stable one

B. In place , not stable one

Page 54

C. In place , stable one

D. Not in place , stable one

Question No: 54

(Marks:1)

Vu-Topper RM

Consider three matrices X,Y,Z of dimensions 1×2 , 2×3 , 3×4 respectively. The number of multiplications of (XY) Z is:

A. 18

B. 32

C. 24

D. 30

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Question No: 55

(Marks:1)

Vu-Topper RM

In Dynamic Programming, our approach is to _____

- A. Express the problem non-recursively
- B. Build the solution in a bottom-up fashion**
- C. Develop the solution in a top-down fashion
- D. Input several sub-problems simultaneously

Page 75

Question No: 56

(Marks:1)

Vu-Topper RM

The knapsack problem is optimally solved by using brute force algorithm. Counting sort is suitable to sort the elements in range 1 to K;

- A. K is large
- B. K is small**
- C. K may be large or small
- D. None

Page 57

Question No: 57

(Marks:1)

Vu-Topper RM

Matrix multiplication is a(n) _____ operation.

- A. Commutative
- B. Associative**
- C. Neither commutative nor associative
- D. Commutative but not associative

Page 85

Question No: 58

(Marks:1)

Vu-Topper RM

In Dynamic Programming approach, solution is modified/changed

_____.

- A. Always once
- B. At each stage**
- C. Only for specific problems
- D. At 4th stage only

Google

Question No: 59

(Marks:1)

Vu-Topper RM

In Knapsack problem, the goal is to put items in the Knapsack such that the value of the items is _____ subject to weight limit of knapsack.

- A. Minimized
- B. Decreased
- C. Maximized**
- D. None of the given options

Page 91

Question No: 60

(Marks:1)

Vu-Topper RM

An in-place sorting algorithm is one that _____ uses additional array for storage.

- A. Always
- B. Permanently
- C. Does not**
- D. Sometime

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Question No: 61 (Marks:1) **Vu-Topper RM**

Dynamic Programming is a problem-solving approach in which ____

- A. Problem is solved in Zero time
- B. Solution is developed only at final stage
- C. Both are correct

D. Both are incorrect

Google

Question No: 62 (Marks:1) **Vu-Topper RM**

In Fibonacci Sequence, each term is calculated by _____ previous _____ terms.

- A. Subtracting, Two
- B. Adding, Three
- C. Adding, Two**
- D. Multiplying, Two

Page 73

Question No: 63 (Marks:1) **Vu-Topper RM**

Dynamic programming formulation of the matrix chain multiplication problem will store the solutions of each sub problem in a(n):

- A. Class
- B. Array
- C. Table**
- D. Variable

Question No: 64 (Marks:1) **Vu-Topper RM**

Sorting is performed on the basis of _____.

- A. Computational resources
- B. Asymptotic notation
- C. Summation

D. Some key value of attribute

Page 39

Question No: 65 (Marks:1) **Vu-Topper RM**

In Heap Sort algorithm, we call Build-heap procedure _____.

- A. Twice
- B. Thrice

C. Only once

Page 46

D. As many times as we need

Question No: 66 (Marks:1) **Vu-Topper RM**

In the statement “output P[1].x, P[1].y”, the number of times elements of P are accessed is _____.

- A. 1
- B. 2**
- C. 3
- D. 4

Page 14

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Question No: 67

(Marks:1)

Vu-Topper RM

_____ provides us more accurate result when input values are not closer with each other

- A. Mode
- B. Mean
- C. Average

D. Median

Page 34

Question No: 68

(Marks:1)

Vu-Topper RM

The process of _____ ends when you are left with such tiny pieces remaining that it is trivial to solve them.

- A. Brute-force
- B. Plan-sweep
- C. Axis-sweep

D. Divide and Conquer

Question No: 69

(Marks:1)

Vu-Topper RM

Rank of an element can be defined as _____.

- A. One minus the number of elements that are smaller
- B. Two plus the number of elements that are greater

C. One plus the number of elements that are smaller **Page 34**

- D. Two minus the number of elements that are smaller

Question No: 70

(Marks:1)

Vu-Topper RM

If the time complexity of an algorithm is given by $O(1)$, then its time complexity would be

- A. Polynomial
- B. Exponential

C. Constant

Google

- D. Average

Question No: 71

(Marks:1)

Vu-Topper RM

The asymptotic growth of $n(n+1)/2$ is:

- A. $O(n)$
- B. $O(n^2)$**
- C. $O(n+2)$
- D. $O(n \log n)$

Question No: 72

(Marks:1)

Vu-Topper RM

Approach of solving geometric problems by sweeping a line across the plane is called _____ sweep.

- A. Line

B. Plane

Page 18

- C. Cube

- D. Box

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Question No: 73 (Marks:1)

Vu-Topper RM

In Sieve technique, we solve the problem

A. In recursive manner Page 34

- B. Non recursively
- C. Using Merge Sort algorithm
- D. Using Brute force technique

Question No: 74 (Marks:1)

Vu-Topper RM

One of the limitation in 0/1 knapsack is that an item can either be _____ in the bag or not.

- A. Use
- B. Put** Page 91
- C. Move
- D. Store

Question No: 75 (Marks:1)

Vu-Topper RM

Which one is not passed as parameter in Quick sort algorithm?

- A. End of the array
- B. Start of the array
- C. Middle of the array
- D. Array (containing input elements)** Google

Question No: 76 (Marks:1)

Vu-Topper RM

In the analysis of Selection algorithm, we get the convergent _____ series.

- A. Harmonic
- B. Linear
- C. Arithmetic
- D. Geometric** Page 37

Question No: 77 (Marks:1)

Vu-Topper RM

A Random Access Machine (RAM) is an idealized machine with random access memory.

- A. Infinite large** Page 10
- B. 512 MB
- C. 256 MB
- D. 2 GBs

Question No: 78 (Marks:1)

Vu-Topper RM

While analyzing Selection algorithm, we make a number of passes, in fact it could be as many as

- A. $n(n+1)$
- B. $\log(n)$** Page 37
- C. $n/3$
- D. $n/4$

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Question No: 79

(Marks:1)

Vu-Topper RM

In Random Access Machine (RAM), instructions are executed in

- A. Parallel
- B. Batch
- C. One by One**
- D. Multiple times

Page 10

Question No: 80

(Marks:1)

Vu-Topper RM

In selection problem, the rank of an element will be its _____ position

- A. First
- B. final**
- C. Second last
- D. Last

Page 34

Question No: 81

(Marks:1)

Vu-Topper RM

The worst-case running time of Merge sort is _____ in order to sort an array of n elements.

- A. $O(\log n)$
- B. $O(n)$
- C. $O(n \log n)$**
- D. $O(n^2)$

Page 40

Question No: 82

(Marks:1)

Vu-Topper RM

$f(n)$ and $g(n)$ are asymptotically equivalent. This means that they have essentially the same _____.

- A. Size
- B. Results
- C. Variables
- D. Growth Rates**

Question No: 83

(Marks:1)

Vu-Topper RM

An algorithm is a mathematical entity. Which is independent of _____.

- A. Programming language
- B. Machine and Programming language
- C. Compiler and Programming language
- D. Programing Language Compiler and Machine**

Question No: 84

(Marks:1)

Vu-Topper RM

In Quick sort algorithm, Pivots form _____

- A. Stack
- B. Queue
- C. Graph
- D. Binary Search Tree**

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Question No: 85

(Marks:1)

Vu-Topper RM

Counting sort is suitable for sorting the elements within range 1 to P.
where

- A. P is large
- B. P is Small**
- C. P is very large
- D. P is undetermined

Question No: 86

(Marks:1)

Vu-Topper RM

In asymptotical analysis of $n^{(5^2)-3}$, as n becomes large, the dominant (fastest growing) term is some constant times

- A. n_1
- B. n
- C. $n+1$
- D. $n*n^{p-23}$**

Question No: 87

(Marks:1)

Vu-Topper RM

___ Items are not allowed in the 0/1 knapsack.

- A. Lighter
- B. Whole
- C. Weighty
- D. Fractional**

Question No: 88

(Marks:1)

Vu-Topper RM

In partition algorithm, the subarray _____ has elements which are greater than pivot element x.

- A. $A[q]$
- B. $A[p...r]$
- C. $A[p...q-1]$
- D. $S[q+1...r]$**

Question No: 89

(Marks:1)

Vu-Topper RM

In Heap Sort algorithm, if heap property is violated

- A. We ignore
- B. We call Heapify procedure
- C. We call Build Heap procedure**
- D. Heap property can never be violated

Question No: 90

(Marks:1)

Vu-Topper RM

_____ is not a characteristic of Random Access Machine.

- A. Assigning a value to a variable
- B. Locality of reference
- C. Single-Processor**
- D. Executing an arithmetic instruction

Page 10

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Question No: 91

(Marks:1)

Vu-Topper RM

The only way to convert an empty string into a string of j characters is by doing j insertions, represented as _____.

A. $E(i,j) = 1$

B. $E(I,0) = I$

C. $E(0,j) = j$

D. $E(1,j) = j$

Page 78

Question No: 92

(Marks:1)

Vu-Topper RM

In Selection problem, the Sieve technique works in _____.

A. Non-recursive manner

B. Constant time

C. Phases

D. One complete go

Page 34

Question No: 93

(Marks:1)

Vu-Topper RM

Algorithm is a sequence of computational steps that _____ the input into output.

A. Merge

B. Assign

C. Transform

D. Integrate

Page 7

Question No: 94

(Marks:1)

Vu-Topper RM

If p_j dominates p_i and p_i dominates p_h then p_j also dominates p_h , it means dominance relation is

A. Transitive

B. Non Transitive

C. Equation

D. Symbolic

Page 18

Question No: 95

(Marks:1)

Vu-Topper RM

To find maximal points in brute-force algorithm each point of the space is compared against _____ of that space.

A. One other point

B. All other points

C. Few other points

D. Most of the other points

Page 11

Question No: 96

(Marks:1)

Vu-Topper RM

In the following code the statement "`cout<<j;`" executes _____ times.

`for (j=1; j<=5; j = j+2)`

`cout<<j;`

A. 5 times

B. 2 times

C. 3 times

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D. 0 times

Question No: 97

(Marks:1)

Vu-Topper RM

In merge sort algorithm, we split the array around the _____ index q.

A. Mid

Page 17

B. Exiting

C. Entring

D. Summing

Question No: 98

(Marks:1)

Vu-Topper RM

In Selection problem, the Sieve technique _____.

A. Add some more input items each time

B. Do not work recursively

C. Do not uses Divide and Conquer approach

D. Eliminates undesired data items each time

Question No: 99

(Marks:1)

Vu-Topper RM

Consider three matrices X, Y, Z of dimensions 1×2 , 2×3 , 3×4 respectively. The number of multiplications of $(XY)Z$ is:

A. 16

B. 32

Page 84

C. 30

D. 26

Question No:100

(Marks:1)

Vu-Topper RM

In Heap Sort algorithm, the total running time for Heapify procedure is_

A. Theta ($\log n$)

B. Order ($\log n$)

C. Omega ($\log n$)

D. $O(1)$ i.e. Constant time

Question No:101

(Marks:1)

Vu-Topper RM

The sieve technique works where we have to find _____ items(s) from a large input.

A. Single

Page 34

B. Two

C. Three

D. Similar

Question No:102

(Marks:1)

Vu-Topper RM

In Dynamic Programming based solution of Knapsack Problem, if we decide to take an object i , then we gain_____

A. W(Total Weight of Knapsack)

B. V (Total Value of all items)

C. vi (Value of object i)

Page 93

D. None of the given option

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Question No:103

(Marks:1)

Vu-Topper RM

While Sorting, the order domain means for any two input elements x and y ___ satisfies only.

A. $x < y$

Page 39

B. $x > y$

C. $x = y$

D. All of the above

Question No:104

(Marks:1)

Vu-Topper RM

For solving Selection problem, we introduced Sieve technique due to ___

A. Using Decrease and Conquer strategy

Page 34

B. Avoiding to sort all input data

C. Eliminating Rank of an element

D. Using Brute-force approach

Question No:105

(Marks:1)

Vu-Topper RM

For solving Selection problem, we introduced Sieve technique due to ___

A. Using Decrease and Conquer strategy

Page 34

B. Avoiding to sort all input data

C. Eliminating Rank of an element

D. Using Brute-force approach

Question No:106

(Marks:1)

Vu-Topper RM

In plane sweep approach, a vertical line is swept across the 2d-plane from ___.

A. Right to Left

B. Left to Right

Page 18

C. Top to Bottom

D. Bottom to top

Question No:107

(Marks:1)

Vu-Topper RM

For ___ values of n , any algorithm is fast enough.

A. Medium

B. Large

C. Small

Page 14

D. Infinity

Question No:108

(Marks:1)

Vu-Topper RM

Dynamic programming comprises of _____.

A. Recursion only

B. Repetition only

C. Recursion with Repetition

D. No Repetition but Recursion

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Question No:109

(Marks:1)

Vu-Topper RM

The function $f(n)=n(\log n+1)/2$ is asymptotically equal to $n \log n$:
Here Lower Bound means function $f(n)$ grows asymptotically at ___ as fast as $n \log n$.

A. Least

Page 23

- B. Normal
- C. Most
- D. AT

Question No:110

(Marks:1)

Vu-Topper RM

Counting sort has time complexity.

A. $O(n+k)$

B. $O(n)$

Page 58

- C. $O(k)$
- D. $O(n \log n)$

Question No:111

(Marks:1)

Vu-Topper RM

Due to left complete nature of binary tree, the heap can be stored in

A. Array

Page 40

- B. Structures
- C. Link List
- D. Stack

Question No:112

(Marks:1)

Vu-Topper RM

Single item from a larger set of _____.

- A. Constant
- B. Pointers
- C. Phases

D. n items

Page 34

Question No:113

(Marks:1)

Vu-Topper RM

In the clique cover problem, for two vertices to be in the same group, they must be _____ each other.

- A. Apart from
- B. Far from
- C. Near to

D. Adjacent to

Page 76

Question No:114

(Marks:1)

Vu-Topper RM

How much time merge sort takes for an array of numbers?

- A. $T(n^2)$
- B. $T(n)$
- C. $T(\log n)$

D. $T(n \log n)$

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Question No:115 (Marks:1) **Vu-Topper RM**

In in-place sorting algorithm is one that uses arrays for storage.

A. No additional array **Page 54**

- B. An additional array
- C. Both of above may be true according to algorithm
- D. More than 3 arrays of one dimension

Question No:116 (Marks:1) **Vu-Topper RM**

Brute-force algorithm for 2D-Maxima is operated by comparing _____ pairs of points.

- A. Two
- B. Some
- C. Most

D. All **Page 18**

Question No:117 (Marks:1) **Vu-Topper RM**

While Sorting, the ordered domain means for any two input elements x and y _____ satisfies only.

- A. $x > y$
- B. $x < y$
- C. $x = y$

D. All of the above **Page 38**

Question No:118 (Marks:1) **Vu-Topper RM**

Quick sort is.

- A. Not stable but in place** **Page 54**
- B. Stable but not in place
- C. Stable & in Place
- D. Some time stable & some times in place

Question No:119 (Marks:1) **Vu-Topper RM**

Which may be a stable sort?

- A. Merger
- B. Insertion

C. Both above **Page 54**

- D. None of the above

Question No:120 (Marks:1) **Vu-Topper RM**

For the Sieve Technique we take time.

A. $T(nk)$ **Page 34**

- B. $IT(n / 3)$
- C. n^2
- D. $n/$

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Question No:121

(Marks:1)

Vu-Topper RM

Continuation sort is suitable to sort the elements in range 1 to k.

- A. K is Large
- B. K is not known
- C. K may be small or large

D. K is small

Page 54

Question No:122

(Marks:1)

Vu-Topper RM

Asymptotic growth rate of the function is taken over _____ case running time. .

A. Worst

Page 14

- B. Average
- C. Best
- D. Normal

Question No:123

(Marks:1)

Vu-Topper RM

Before sweeping a vertical line in plane sweep approach, in start sorting of the points is done in increasing order of their _____ coordinates. .

- A. Y
- B. Z
- C. X**
- D. X , Y

Question No:124

(Marks:1)

Vu-Topper RM

In Quick sort, we don't have the control over the sizes of recursive calls.

A. True

Page 49

- B. False
- C. Less information to decide
- D. Either true or false

Question No:125

(Marks:1)

Vu-Topper RM

Random access machine or RAM is a/an.

- A. Machine build by Al-Khwarizmi
- B. Mechanical machine
- C. Mathematical model**
- D. Electronics machine

Page 10

Question No:126

(Marks:1)

Vu-Topper RM

A heap is a left-complete binary tree that confirms to the _____.

- A. increasing order only
- B. decreasing order only

C. heap order

Page 40

- D. log n order

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Question No:127

(Marks:1)

Vu-Topper RM

Which one of the following sorting algorithms is the fastest?

- A. Merge sort
- B. Quick sort**
- C. Insertion sort
- D. Heap sort

Question No:128

(Marks:1)

Vu-Topper RM

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

- A. 2**
- B. 3
- C. 4
- D. 5

Question No:129

(Marks:1)

Vu-Topper RM

In brute force algorithm, we measure running time $T(n)$ based on _____.

- A. Worst-case time and best-case time
- B. Worst-case time and average-case time** Page 46
- C. Average-case time and best-case time
- D. Best-case time and starting-case time

Question No:130

(Marks:1)

Vu-Topper RM

algorithm first of all _____.

- A. Sorts all points**
- B. Delete some points
- C. Output the elements
- D. Pushes all points on stack

Question No:131

(Marks:1)

Vu-Topper RM

Which symbol is used for Omega notation?

- A. (O)
- B. (Θ)
- C. (Ω)**
- D. (@)

Question No:132

(Marks:1)

Vu-Topper RM

Selection sort is a _____ sorting algorithm

- A. In-place** Page 54
- B. Not In-Place
- C. Stable
- D. in-partition

Question No:133

(Marks:1)

Vu-Topper RM

We do not need to prove comparison-based sorting algorithms by mathematically. It always takes _____ time.

- A. Big Oh $n \log(n)$

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B. Omega $n \log(n)$

C. Omega $n(n^2)$

D. Theta $n \log(n)$

Question No:134 (Marks:1)

Vu-Topper RM

Merge sort is a/an _____ and _____ sorting algorithm

A. Not in-place, not stable one

B. In-place, not stable one

C. In-place, stable one

D. Not in-place, stable one

Page 54

Question No:135 (Marks:1)

Vu-Topper RM

Cubic function will _____ a quadratic function.

A. Prove

B. Be equal to

C. Overtake

Page 25

D. Find

Question No:136 (Marks:1)

Vu-Topper RM

Insertion sort is a _____ sorting algorithm

A. Unstable

B. In-place

Page 54

C. Not In-Place

D. in-partition

Question No:137 (Marks:1)

Vu-Topper RM

To check whether a function grows faster or slower than the other function, we use some asymptotic notations, which is _____.

A. Big-oh notation

B. Theta notation

C. Omega notation

D. All of the given

Question No:138 (Marks:1)

Vu-Topper RM

Asymptotic growth of $8n^2 + 2n - 3$ is:

A. $\Theta(n^2 + n)$

B. $\Theta(n^2)$

Page 14

C. $\Theta(8n^2)$

D. $\Theta(8n^2 + 2n)$

Question No:139 (Marks:1)

Vu-Topper RM

In the analysis of algorithms, _____ plays an important role.

A. Time

B. Money

C. Growth rate

D. Text analysis

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Question No:140 (Marks:1) **Vu-Topper RM**

In inductive approach of knapsack problem, we consider 2 cases, _____

Or _____.

- A. Median, Mode
- B. Recursive, Iterative

C. Leave object, Take object

Page 93

- D. Sequentially. Parallel

Question No:141 (Marks:1) **Vu-Topper RM**

Random Access Machine (RAM) can execute _____ instructions

- A. Parallel
- B. Only logical
- C. Only arithmetic

D. Logical and arithmetic

Question No:142 (Marks:1) **Vu-Topper RM**

Using _____ algorithm, efficiency is not given much importance

- A. Greedy
- B. Merge sort

C. Processing

- D. Brute Force

Question No:143 (Marks:1) **Vu-Topper RM**

Bubble sort takes theta _____ in the worst case

A. (n²)

Page 39

- B. (n)
- C. log(n)
- D. nlog(n)

Question No:144 (Marks:1) **Vu-Topper RM**

Using base condition we set all $m[i,i] =$ _____ ?

A. 1

B. 0

Page 86

C. ∞

D. -1

Question No:145 (Marks:1) **Vu-Topper RM**

Dynamic Programming algorithms often use some kind of _____ to store the results of intermediate sub-problems

- A. Stack
- B. Loop

C. Table

- D. variable

Question No:146 (Marks:1) **Vu-Topper RM**

_____ is in-place sorting algorithm.

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A. Bubble sort

Page 54

B. Merge sort

C. Linear search

D. Binary Search

Question No:147

(Marks:1)

Vu-Topper RM

Which one of the following problems can be solved using dynamic problem?

A. Bubble sort problem

B. Greedy search problem

C. Fractional knapsack problem

D. Matrix chain multiplication problem

Page 85

Question No:148

(Marks:1)

Vu-Topper RM

In chain matrix multiplication, solutions of the sub-problems are stored in a _____.

A. Array

B. Table

Page 86

C. Tree

D. Link list

Question No:149

(Marks:1)

Vu-Topper RM

What is the average running time of a quick sort algorithm?

A. $O(n^2)$

B. $O(n)$

C. $O(n \log n)$

Page 49

D. $O(\log n)$

Question No:150

(Marks:1)

Vu-Topper RM

Sorting Algorithms having O _____ running time are considered to be slow ones.

A. (n)

B. (n^2)

Page 39

C. $(n \log(n))$

D. $(\log(n))$

Question No:151

(Marks:1)

Vu-Topper RM

While solving Selection problem, in Sieve technique we partition input data _____

A. Randomly

B. According to Pivot

C. In increasing order

D. In decreasing order

Question No:152

(Marks:1)

Vu-Topper RM

_____ is the process of avoiding unnecessary repetitions by

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writing down the results of recursive calls and looking them up again if we need them later.

- A. Loop
- B. Function
- C. Recursion

D. Memoization

Page 74

Question No:153

(Marks:1)

Vu-Topper RM

In average-case time the probability of seeing input is denoted by ____.

- A. $p\{I\}$
- B. $p[I]$
- C. $p\langle i \rangle$

D. $p(i)$

Page 13

Question No:154

(Marks:1)

Vu-Topper RM

While applying the Sieve technique to selection sort, how to choose a pivot element.

- A. Through mean
- B. Linear

C. Randomly

Page 35

D. Sequentially

Question No:155

(Marks:1)

Vu-Topper RM

Number of _____ of the pseudo code are counted to measure the running time.

- A. Inputs
- B. Outputs

C. Steps

Page 13

D. Pages

Question No:156

(Marks:1)

Vu-Topper RM

Developing a dynamic programming algorithm generally involves _____ separate steps.

A. One

B. Two

Page 75

C. Three

D. Four

Question No:157

(Marks:1)

Vu-Topper RM

$8n^2+2n+3$ will exceed $c28(n)$, no matter how large we make ____.

A. n

B. $2n$

C. $c2$

Page 25

D. this quadratic equation

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Question No:158 (Marks:1) **Vu-Topper RM**

The running time of quick sort algorithm_____.

- A. Is impossible to compute
- B. Has nothing to do with pivot selection
- C. Is Random upon each execution

D. Greatly influenced by the selection of pivot **Page 49**

Question No:159 (Marks:1) **Vu-Topper RM**

_____ involves breaking up the problem into sub problems whose solutions can be combined to solve the global problem.

- A. Complexity Theory
- B. Greedy Algorithms

C. Divide and Conquer Strategy **Page 34**

D. Dynamic programming solution

Question No:160 (Marks:1) **Vu-Topper RM**

In _____ we have to find rank of an element from given input.

A. Merge sort algorithm

B. Selection problem **Page 34**

C. Brute force technique

D. Plane Sweep algorithm

Question No:161 (Marks:1) **Vu-Topper RM**

How many steps are involved to design the dynamic programming strategy?

A. 2

B. 4 **Page 92**

C. 3

D. 1

Question No:162 (Marks:1) **Vu-Topper RM**

In bin sort, each bin can be replaced by a _____ in case of duplication.

A. Heap

B. Stack

C. Hash table

D. Linked list **Page 69**

Question No:163 (Marks:1) **Vu-Topper RM**

In merge sort algorithm, we split the array _____ to find index q.

A. from end

B. from start

C. midway **Page 28**

D. both from start or end

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Question No:164

(Marks:1)

Vu-Topper RM

Find the maximum value of the items which can carry using knapsack

Knapsack weight capacity = 50.

Item Weight Value

11070

22020

33080

470 200

A. 90

B. 280

C. 200

D. 100

Question No:165

(Marks:1)

Vu-Topper RM

In 2-d maxima problem a point p is said to be dominated by point q if_.

A. $p.x \leq q.x$

B. $p.x \leq q.x$ and $p.y \leq q.y$

Page 17

C. $p.y \leq q.y$

D. $p.x \geq q.x$ and $p.y \geq q.y$

Question No:166

(Marks:1)

Vu-Topper RM

Sorting can be in _____.

A. Increasing order only

B. Decreasing order only

C. Both increasing and decreasing order

D. Random order

Question No:167

(Marks:1)

Vu-Topper RM

Recurrence can be described in terms of _____.

A. Array

B. Linear

C. Tree

Page 31

D. Graph

Question No:168

(Marks:1)

Vu-Topper RM

The brute-force algorithm for 2D-Maxima runs in order $O(_)$ time.

A. n

B. $n(\log n)$

C. $n*n$

Page 18

D. n^3

Question No:169

(Marks:1)

Vu-Topper RM

In plane sweep approach of solving geometric problems, a _____ is swept across the plane.

A. Line

Page 18

B. Plane

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- C. Cube
- D. Box

Question No:170 (Marks:1) **Vu-Topper RM**

Which of the following is calculated with Big Omega notation?

- A. Upper bounds
- B. Lower bounds**
- C. Medium bounds

Page 25

Question No:171 (Marks:1) **Vu-Topper RM**

_____ is always based on divide and conquer strategy.

- A. Bubble sort
- B. Selection sort
- C. Pigeon sort

D. Quick sort

Page 46

Question No:172 (Marks:1) **Vu-Topper RM**

If a matrix has three rows and two columns, then dimensions of matrix will be:

- A. 3×2**
- B. 2×3
- C. 3×3
- D. 2×2

Question No:173 (Marks:1) **Vu-Topper RM**

Asymptotic notations are used to describe _____ of an algorithm.

- A. Size
- B. Length
- C. Running time**
- D. Compile time

Google

Question No:174 (Marks:1) **Vu-Topper RM**

Catalan numbers are related the number of different _____ on 'n' nodes.

- A. Arrays
- B. linked lists
- C. binary trees**
- D. functions

Page 85

Question No:175 (Marks:1) **Vu-Topper RM**

Applying the sieve technique to selection problem, _____ element is picked from array.

- A. Pivot**
- B. Total
- C. Input
- D. Output

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Question No:176

(Marks:1)

Vu-Topper RM

In recursive formulation of knapsack Problem: $V[0, j] = \underline{\hspace{2cm}}$ for $j \geq 0$

A. 2

B. -1 **Page 93**

C. 1

D. 2

Question No:177

(Marks:1)

Vu-Topper RM

 is a linear time sorting algorithm.

A. Merge sort

B. Radix sort **Page 71**

C. Quick sort

D. Bubble sort

Question No:178

(Marks:1)

Vu-Topper RM

Quick sort is one of the sorting algorithm.

A. Fastest **Page 19**

B. Slowest

C. Major

D. Average

Question No:179

(Marks:1)

Vu-Topper RM

The time assumed for each basic operation to execute on RAM model of computation is .

A. Infinite

B. Continuous

C. Constant **Page 10**

D. Variable

Question No:180

(Marks:1)

Vu-Topper RM

While analyzing algorithms, and are usually considered difficult to calculate.

A. Floor, ceiling **Google**

B. Row, Column

C. Finite, Infinite

D. Graph, Tree

Question No:181

(Marks:1)

Vu-Topper RM

While analysis of the brute-force maxima algorithm, an array sorted in the reverse order is the type of case input.

A. Best

B. Worst **Page 14**

C. Somewhat bad

D. Average

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Question No:182

(Marks:1)

Vu-Topper RM

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

- A. Mean
- B. Mode
- C. Average

D. Median **Page 34**

Question No:183

(Marks:1)

Vu-Topper RM

In asymptotical analysis of $n(n-3)$ and $4n*n$, as n becomes large, the dominant (fastest growing) term is some constant times _____.

- A. $n+1$
- B. $n-1$
- C. n

D. $n*n$ **Page 23**

Question No:184

(Marks:1)

Vu-Topper RM

In addition to passing in the array itself to merge sort algorithm, we will pass in _____ other arguments which are indices.

- A. Three
- B. Two**
- C. Four
- D. Five

Question No:185

(Marks:1)

Vu-Topper RM

In 2d-maximal problem, a point is said to be if it is not dominated by any other point in that space.

- A. Member
- B. Minimal
- C. Maximal**
- D. Joint

Question No:186

(Marks:1)

Vu-Topper RM

Counting sort assumes that the numbers to be sorted are in the range__.

- A. K to n where n is large
- B. K to n where k is small
- C. 1 to k where k is small**
- D. k to n where n is small

Question No:187

(Marks:1)

Vu-Topper RM

Insertion sort is an efficient algorithm for sorting a _____ number of elements.

- A. Small
- B. Large**
- C. Extra large
- D. Medium

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Question No:188

(Marks:1)

Vu-Topper RM

If the indices passed to merge sort algorithm are _____, then this means that there is only one element to sort.

A. Small

Page 28

B. Large

C. Equal

D. Not Equal

Question No:189

(Marks:1)

Vu-Topper RM

In Knapsack Problem, each item must be entirely accepted or rejected, is called _____ problem.

A. Linear

B. Fractional

C. 0-1

D. Optimal

Question No:190

(Marks:1)

Vu-Topper RM

If the time complexity of an algorithm is $O(n)$. then it is called _____ time complexity.

A. Linear

B. Constant

C. Average

D. Exponential

Question No:191

(Marks:1)

Vu-Topper RM

In the case of _____ analysis does not depend upon on the distribution of input.

A. Merge sort

B. Insertion sort

C. Quick Sort

D. Heap sort

Question No:192

(Marks:1)

Vu-Topper RM

We can use the _____ property to devise a recursive formulation of the edit distance problem.

A. Small substructure

B. Algorithmic

C. Real

D. Optimal substructure

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Question No:193

(Marks:1)

Vu-Topper RM

The following sequence is called _____ .1,2,3,5,8,13,21,34,55,.....

A. Fibonacci sequence

Page 73

B. Optimal sequence

C. Optimize Sequence

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D. Overlapping sequence

Question No:194

(Marks:1)

Vu-Topper RM

Which one sorting algorithm is best suited to sort an array of 2 million elements?

A. Insert sort

B. Ridx Sort

Page 71

C. Merge sort

D. Quick sort

Question No:195

(Marks:1)

Vu-Topper RM

We can improve the performance of quick sort if we could be able to_.

A. Select two or more pivots

Page 34

B. Skip any sub-array completely

C. Skit Input elements somehow

D. Eliminate recursive calls

Question No:196

(Marks:1)

Vu-Topper RM

The problem with the brute-force algorithm is that it uses _____ in pruning out de

A. Worst-case time

B. No intelligence

Page 18

C. Outside looping

D. Artificial intelligence

Question No:197

(Marks:1)

Vu-Topper RM

In Heap Sort algorithm. Heapify procedure is _____ in nature.

A. Recursive

B. Non-Recursive

Page 43

C. Fast

D. Slow

Question No:198

(Marks:1)

Vu-Topper RM

An algorithm is said to be correct if for every _____ instance, it halts with the correct _____.

A. Input, Output

Page 13

B. Design, Analysis

C. Value, Key

D. Key, Analysis

Question No:199

(Marks:1)

Vu-Topper RM

If we have an equation $8n^2 + 7f \cdot n + 5f + 6$ then is large, _____ term will be muchxxxxxxxthe n term and will dominate the running time.

A. f g (n)

B. g (n) * 2

C. n * 2

Page 23

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D. $f(n)$

Question No:200

(Marks:1)

Vu-Topper RM

For quick sort algorithm. Partitioning takes theta _____.

- A. (n)
- B. $\log(n)$
- C. $n \log(n)$
- D. $n^2 \log(n)$**

Question No:201

(Marks:1)

Vu-Topper RM

In Heap Sort algorithm, the maximum levels an element can move upward is _____

- A. Theta ($\log n$)**
- B. Big-oh ($\log n$)
- C. Omega ($\log n$)
- D. $O(1)$ i.e. Constant time

Page 43

Question No:202

(Marks:1)

Vu-Topper RM

Which process is used for avoiding unnecessary repetitions and looking them up again if we need them later.

- A. Greedy Approach
- B. Memoization**
- C. Divide and conquer
- D. Recursion

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Question No:203

(Marks:1)

Vu-Topper RM

The worst-case running time of Quick sort is _____ in order to sort an array of n element.

- A. $O(n \log n)$**
- B. $O(n)$
- C. $O(n^2)$
- D. $O(\log n)$

Page 49

Question No:204

(Marks:1)

Vu-Topper RM

Boolean operation is a _____ operation on an idealized RAM model of computation.

- A. Advance
- B. String
- C. Basic**
- D. Normal

Question No:205

(Marks:1)

Vu-Topper RM

In chain matrix multiplication, if there are n items, there are _____ ways in which outer most pair of parentheses can be placed.

- A. n^2
- B. $2n$

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C. $n+1$

D. $n-1$

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Question No:206

(Marks:1)

Vu-Topper RM

The number of nodes in a complete binary tree of height h is:

A. $(h+1) - 1$

B. $(h+1)$

C. $2^{(h+1)} - 1$

Page 40

D. $((h+1)^2) - 1$

Question No:207

(Marks:1)

Vu-Topper RM

In Sieve Technique, we know the item of interest.

A. True

B. False

Question No:208

(Marks:1)

Vu-Topper RM

The Huffman codes provide a method of encoding data inefficiently when coded using ASCII standard.

A. True

B. False

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Question No:209

(Marks:1)

Vu-Topper RM

In Heap Sort algorithm, we build _____ for ascending sort.

A. Min heap

B. Max Heap

Page 41

C. Both

D. None of these

Question No:210

(Marks:1)

Vu-Topper RM

Quick sort is a recursive algorithm.

A. True

B. False

Question No:211

(Marks:1)

Vu-Topper RM

In Heap Sort algorithm, to remove the maximum element every time,_____.

A. Nothing happens

B. We call heapify procedure

C. We call Build-Heap procedure

D. Heap Sort algorithm terminates without result

Question No:212

(Marks:1)

Vu-Topper RM

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

A. It will take $O(1)$.

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

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C. It can not be predicted.

D. Time will vary according to the nature of input data.

Question No:213

(Marks:1)

Vu-Topper RM

What is the best case time complexity of merge sort?

A. $O((n^2))$

B. $O((n \log n))$ **Google**

C. $O((n \log n^2))$

D. $O((n^2 \log n))$

Question No:214

(Marks:1)

Vu-Topper RM

In Heap Sort algorithm, the first step is to _____.

A. Call Heapify procedure

B. Call Build-Heap procedure

C. Sort the array in descending order

D. Find the number of input elements

Question No:215

(Marks:1)

Vu-Topper RM

Merge sort algorithm discussed in handouts contains _____.

A. 1 loop

B. 2 loops

C. 3 loops

D. 4 loops

Question No:216

(Marks:1)

Vu-Topper RM

In _____, Leonardo of Pisa, also called Fibonacci, published a book.

A. 1102

B. 1202 **Google**

C. 1400

D. 1304

Question No:217

(Marks:1)

Vu-Topper RM

If matrix A of dimension 2×4 is multiplied with matrix B of dimension 4×3 , then the dimension of resultant matrix will be _____.

A. 2×3 **Page 84**

B. 4×3

C. 3×4

D. 2×4

Question No:218

(Marks:1)

Vu-Topper RM

In generating Fibonacci Sequence, we can avoid unnecessary repetitions by _____ process.

A. Loop

B. Function

C. Recursion

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Question No:219

(Marks:1)

Vu-Topper RM

Algorithms similar to those for the _____ problem are used in some speech recognition systems.

- A. Counting
- B. heap sort
- C. Fibonacci

D. edit-distance

Page 77

Question No:220

(Marks:1)

Vu-Topper RM

Radix sort performs sorting the numbers _____ digit(s) at a time.

A. One

Page 71

- B. Two
- C. All
- D. Four

Question No:221

(Marks:1)

Vu-Topper RM

Radix sort is a _____ integer sorting algorithm.

- A. In-Place
- B. Unstable
- C. Comparative

D. Non-comparative

Google

Question No:222

(Marks:1)

Vu-Topper RM

We can use the optimal substructure property to devise a _____ formulation of the edit distance problem.

- A. Iterative
- B. Optimum
- C. Selective

D. Recursive

Page 78

Question No:223

(Marks:1)

Vu-Topper RM

The formula for calculating the Catalan number is _____.

| | |
|----------------------------------|--------------------------------------|
| <input type="radio"/> | $C(n) = \frac{1}{n+1} \binom{2n}{n}$ |
| <input type="radio"/> | $C(n) = \frac{1}{n-1} \binom{2n}{n}$ |
| <input checked="" type="radio"/> | $C(n) = \frac{1}{n+1} \binom{2n}{n}$ |
| <input type="radio"/> | $C(n) = \frac{1}{n-1} \binom{2n}{n}$ |

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Question No:224

(Marks:1)

Vu-Topper RM

_____ belongs to Dynamic programming.

- A. Heap sort
- B. Merge sort
- C. Edit distance**
- D. Divide and conquer

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Question No:225

(Marks:1)

Vu-Topper RM

In his book _____, Leonardo Pisano addressed the Fibonacci sequence as well as a variety of other problems.

- A. Liber fib
- B. Fib abaci
- C. Fibonacci
- D. Liber abaci**

Google

Question No:226

(Marks:1)

Vu-Topper RM

Dynamic Programming approach is usually useful in solving _____ problems.

- A. Loop
- B. Array
- C. Normal
- D. Optimization**

Page 97

Question No:227

(Marks:1)

Vu-Topper RM

We can multiply two matrices A and B only when they are compatible which means:

- A. Number of rows and columns do not matter
- B. Number of rows in A must be equal to number of rows in B
- C. Number of columns in A must be equal to number of rows in B**
- D. Number of columns in A must be equal to number of columns in B

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Question No:228

(Marks:1)

Vu-Topper RM

If we have 6 matrices in chain matrix multiplication problem then the number of table entries must be?

- A. 12
- B. 25
- C. 30
- D. 36**

Google

Question No:229

(Marks:1)

Vu-Topper RM

_____ algorithm based on Dynamic Programming strategy.

- A. Quick Sort
- B. Heap Sort**

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- C. Binary Tree
- D. Edit distance

Question No:230

(Marks:1)

Vu-Topper RM

Which method is preferable for dealing with chain matrix multiplication?

- A. Graph Theory
- B. Greedy Approach
- C. Divide and Conquer Strategy

D. Dynamic Programming Formulation

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