1. Which operations are performed on AVL tree?
   Search
   Insertion
   Deletion
   all
2. What is vertex?
   Node
   Indivisual data
   Collection of data
   A & b
3. What is the formula for balance factor?
   a.Tree height
   b.heightOfLeftSubtree – heightOfRightSubtree
   c. heightOfRightSubtree – heightOfLeftSubtree
   d. both b & c
4. In minimum cost spanning tree, which graph is used as an input?
   Complete
   Directed
   Undirected
   all
5. What is the output of array (5,4,3,2,1) after applying sorting technique, if we want to sort the given array in ascending order?
   1,2,3,4,5
   1,4,3,2,5
   1,4,2,5,3
   none
6. What is the best case time complexity of insertion sort?
   O(n)
   O(n^2)
   O(logn)
   none
7. How many graph traversal methods are given?
   1
   2
   3
   4
8. How many cases are available in master method?
   1
   2
   3

4

9. What is optimization?
   Minimization
   Maximization
   Minimization & maximization
   none
10. What is objective function?
    A. The function which is used to decide optimal solution
    B. The function which is used to select the no. of inputs
    C. The function which is used to check feasibility condition
    D. all
11. What is the rule for inorder traversal?
    Left-root-right
    Right-left-root
    Left-right-root
    none

12. What is dynamic programming method?
    Dynamic Programming solves problems by combining the solutions of subproblems.
    Dynamic Programming solves problems by dividing the solutions of subproblems.
    Dynamic Programming solves problems by combining the solutions of main problem
    none
13. Which of the following are the applications of greedy method?
    Job scheduling
    Shortest path
    Minimum spanning tree
    all
14. What is binary tree?
    The tree which is having atmost two child nodes
    The tree which is having one child nodes
    The tree which is having morethan three child nodes
    none
15. What is the use of Huffman code?
    It is used for compressing the data very effectively
    Data compression
    Image compression
    none
16. What is used by Huffman coding algorithm?
    Min priority
    Max priority
    Avg priority
    none

17. How many rules are given in Stressen's algorithm?
    1
    2
    3
    7
18. Which algorithm is used to solve Single source shortest path problem?
    Dijkstra's
    Bellmon ford
    Distance
    nothing
19. Which algorithm is used to solve minimum cost spanning tree?
    Kruskal's
    Prim's
    Both
    none
20. What is the root node?
    The node at the top of the tree is called root
    The node at the bottom of the tree is called root
    The node at the middle of the tree is called root
    none

21. What is child node?
    In a tree data structure, the node which is predecessor of any node is called as CHILD Node
    In a tree data structure, the node which is descendant of any node is called as CHILD Node
    In a tree data structure, the node which is not any node is called as CHILD Node
    none
22. What is Time complexity?
    The time complexity of an algorithm is the total amount of time required by an algorithm to complete its execution
    The time complexity of an algorithm is the total amount of time required by an algorithm to complete its calculation
    The time complexity of an algorithm is some amount of time required by an algorithm to complete its execution
    none

23. What is the formula for Big oh notation?
    A. f(n) = O(g(n)), If and only if f(n) <= C g(n) for all n, where n >= n0, C > 0 and n0 >= 1
    B. f(n) = O(g(n)), If and only if f(n) >= C g(n) for all n, where n >= n0, C > 0 and n0 >= 1
    C. f(n) = O(g(n)), If and only if f(n) = C g(n) for all n, where n >= n0, C > 0 and n0 >= 1
    D. f(n) = O(g(n)), If and only if f(n) != C g(n) for all n, where n >= n0, C > 0 and n0 >= 1
24. What are various types of binary tree?
    Full

Complete
Perfect
all

25. What is the worst case time complexity of quick sort algorithm?
    O(n^2)
    O(n)
    O(logn)
    all
26. What the DFS stands for?
    Depth first search
    Deep first search
    Deepening first search
    none
27. What different tree traversal techniques are in existance?
    Inorder
    Preorder
    Postorder
    all
28. Which one of the following is the process of inserting an element in the stack?
    Insert
    Add
    Push
    none
29. What is graph?
    A graph G can be defined as an ordered set G(V, E) where V(G) represents the set of vertices and E(G) represents the set of edges
    A graph G can be defined as an unordered set G(V, E) where V(G) represents the set of vertices and E(G) represents the set of edges
    A graph G can be defined as an random set G(V, E) where V(G) represents the set of vertices and E(G) represents the set of edges
    none
30. What is degree of a node?
    A. A degree of a node is the number of edges that are connected with that node.
    B. A degree of a node is the number of nodes that are connected with that node.
    C. A degree of a node is the number of edges that are not connected with that node.
    D. A degree of a node is the number of edges that are connected with egde.
31. What is the advantage of binary search over linear search?
    A. It is not needed to scan complete array to find element
    B. B. It is needed to scan complete array to find element
    C. C. A. It is needed to scan complete array to delete element
    D. none
32. What is topological sort?

A.Topological sorting of a Directed Acyclic Graph is an ordering of the vertices v1,v2,...vn in such a way, that if there is an edge directed towards vertex vj from vertex vi, then vi comes before vj
B. of a Directed cyclic Graph is an ordering of the vertices v1,v2,...vn in such a way, that if there is an edge directed towards vertex vj from vertex vi, then vi comes before vj
C. of a undirected Acyclic Graph is an ordering of the vertices v1,v2,...vn in such a way, that if there is an edge directed towards vertex vj from vertex vi, then vi comes before vj
of a Directed Acyclic Graph is an unordering of the vertices v1,v2,...vn in such a way, that if there is an edge directed towards vertex vj from vertex vi, then vi comes before vj

33. What is threaded binary tree?
    A. Threaded Binary Tree is also a binary tree in which all left child pointers that are NULL points to its in-order predecessor, and all right child pointers that are NULL points to its in-order successor.
    B. B. Threaded Binary Tree is also a binary tree in which all right child pointers that are NULL points to its in-order predecessor, and all left child pointers that are NULL points to its in-order successor.
    C. C. Threaded Binary Tree is also a binary tree in which all right child pointers that are NULL points to its in-order predecessor, and all left child pointers that are NULL points to its pre-order successor.
    D. D. Threaded Binary Tree is also a binary tree in which all right child pointers that are NULL points to its post-order predecessor, and all left child pointers that are NULL points to its in-order successor.
34. What is linear datastructure?
    A. If a data structure organizes the data in unsequential order, then that data structure is called a Linear Data Structure.
    B. B. If a data structure organizes the data in sequential order, then that data structure is called a Linear Data Structure.
    C. C. If a data structure organizes the data in sequential order, then that data structure is not a Linear Data Structure.
    D. D. If a data structure organizes the data in sequential order, then that data structure is called a non - Linear Data Structure.
35. In which category array datastructure includes?
    Linear
    Non-linear
    Combinational
    none
36. How the comparison of sorting algorithm performs?
    A. The comparison of sorting methods is performed based on the Time complexity and Space complexity of sorting methods.
    B. The comparison of sorting methods is performed based on the Space complexity of sorting methods.
    C. none
37. What is the definition of Big Oh notation?

38. What for the master method is used?
    To solve recurrence
    To find shortest path
    To find max preofit
    anything
39. Which of the following is correct about Divide-and-conquer method?
    Breaking the problem into a smaller selections
    Breaking the problem into a larger selections
    Breaking the problem into a medium selections
    none
40. What is the alternate name of shortest path algorithm in greedy method?
    Dijkstra's Algorithm
    Floyd warshall
    Kruskal
    distance
41. What is spanning tree?
    A. it is a subset of an undirected Graph that has all the vertices are not connected by minimum number of edges.
    B. B. It is a subset of an undirected Graph that has all the vertices connected by minimum number of edges.
    C. C. It is a subset of an directed Graph that has all the vertices connected by minimum number of edges.
    D. none
42. In stressen's matrix multiplication method, which of the following statement is true about matrix size?
    A. The size of matrix are same
    B. The size of matrix is not same
    C. The size of matrix is zero
    D. The size of matrix is not sure
43. Which of the following symbol is the used for Big Oh notation ?
    A
    G
    R
    O
44. What is space complexity?
    A. The amount of time required by an algorithm to run to its completion.
    B. The amount of memory space required by an algorithm to run to its completion.
    C. The no. of inputs required by an algorithm to run to its completion.
    D. none
45. Which of the following is the incorrect method for sorting?
    Insertion
    Selection

Deletion
exchange

46. Given two vertices in a graph s and t, which of the two traversals (BFS and DFS) can be used to find if there is path from s to t?
    Both BFS and DFS
    Neither BFS nor DFS
    Only BFS
    Only DFS
47. What is the time complexity of Huffman Coding?
    O(n logn)
    O(n^2)
    O(n)
    O(n!)
48. Which symbol is used to represent output in a flowchart?
    Square
    Circle
    Parallelogram
    triangle
49. Which is the correct order of the efficiency of the following sorting algorithms according to their overall running time comparison?
    Bubble>Selection>Insertion
    Selection>Bubble>Insertion
    Insertion>Bubble>Selection
    Insertion>Selection>Bubble
50. What should be the final objective of travelling salesman problem?
    Getting max profit
    Getting min distance
    Getting max distance
    Getting graph of min length
51. What is the use of master method?
    It is used for solving logarithmic recurrence equation
    Used for linear equation
    Used for quadratic equation
    For arithmetic calculation
52. What is the alternate name of balanced binary tree?
    Height balanced binary tree
    Depth balanced binary tree
    Level balanced
    Deep balanced

53. What are different types of rotations can be done on unbalanced tree?
    LL

LR
RR
All

54. What are different types of edges?
    Undirected
    Directed
    Weighted
    all
55. Which of the following algorithm is used for solving minimum cost spanning tree?
    Dijkstras
    Kruskal
    Distance
    none
56. What is worst case time complexity of insertion sort?
    O(n^2)
    O(n)
    O(n logn)
    none
57. What type of inputs can be specified in average case?
    4,3,5,2,1
    2,3,1,4,5
    5,1,2,3,4
    all
58. If complete sorted array is given as an input to any sorting technique, then what happens to the time complexity of it's algorithm?
    Time complexity minimized
    Time complexity is more
    Time complexity is constant
    any
59. Which graph traversal techniques are given?
    BFS
    DFS
    Both
    none
60. What is binary search tree?
    A. Binary Search Tree is a binary tree in which every node contains only smaller values in its left subtree and only larger values in its right subtree.
    B. Binary Tree is a binary tree in which every node contains only smaller values in its left subtree and only larger values in its right subtree.
    C. Binary Search Tree is a binary tree in which every node contains only larger values in its left subtree and only larger values in its right subtree.

D. Binary Search Tree is a binary tree in which every node contains only smaller values in its left subtree and only smaller values in its right subtree.

61. What is optimal solution?
    Desired sol
    Set of sol
    No. of sol
    none
62. Which two algorithms are used to solve minimum cost spanning tree?
    Kruskal's
    Prim's
    Dijkstra's
    Both a & b
63. What is the rule for preorder traversal?
    Left-root-right
    Root-left-right
    Right-left-root
    none
64. Which two properties dynamic programming have?
    Candidate sol
    Overlapping subproblems
    Feasibility check
    none
65. If the list is totally in reverse order and it is asked to arrange in ascending order then in which case this analysis is considered?
    Best
    Worst
    Avg
    Upper bound
66. What are the types of binary tree?
    Full
    Complete
    Perfect
    all
67. What form of data is processed in Huffman code ?
    Image or set of characters
    Data value
    Pixel value
    all
68. What the LCS stands for?
    A. Longest common subsequence
    B. Largest common subsequence
    C. Lengthy common subsequence

D. Last common subsequence

69. Which of the following is the second largest number in the given array? A=[1,5,9,32,54]
    5
    54
    32
    1
70. Which type of graph is used in single source shortest path problem?
    Directed
    Undirected
    Unknown
    all
71. What is the time complexity of kruskal's and prim's algorithm?
    O(n+E logn)
    O(v+E logv)
    O(n^2)
    Both 1 & 2
72. What is sibling?
    A. In any tree, the nodes which has different parent are called sibling
    B. In any tree, the nodes which has same parent are called sibling
    C. In any tree, the nodes which has same child nodes are called sibling
    D. In any tree, the nodes which has no same parent are called sibling
73. What is parent node?
    A. In a tree data structure, the node which is a successor of any node is called as PARENT NODE
    B. In a tree data structure, the node which is not a predecessor of any node is called as PARENT NODE
    C. In a tree data structure, the node which is a predecessor of any node is called as PARENT NODE
    D. In a tree data structure, the node which is a predecessor of any edge is called as PARENT NODE
74. What are three different types of asymptotic notations?
    Big oh
    Omega
    Theta
    all
75. Which of the following are the properties of binary tree?
    A. At each level of i, the maximum number of nodes is 2i.
    B. The minimum number of nodes possible at height h is equal to h+1.
    C. The minimum number of nodes possible at height h is equal to h-1
    Both A & B
76. What is complete binary tree?
    A. The complete binary tree is a tree in which all the nodes are not completely filled except the last level.

B. The complete binary tree is a tree in which all the nodes are completely filled except the last level.
C. The complete binary tree is a tree in which all the nodes are partially filled except the last level.
D. Only B

77. What the BFS stands for?
Bridge first search
Best first search
Breadth first
Binary first

78. Which datastructure is used for solving depth first search problem?
Stack
Queue
Tree
graph

79. How to implement postorder traversal?
Root-left-right
Left-right-root
Left-root-right
none

80. Following complexity shows the increasing order of time. Which one is correct?
A. O(2^n)<O(n)<O(n logn)<O(n^2)<O(logn)
B. O(logn)<O(n)<O(n logn)<O(n^2)<O(2^n)
C. O(logn)<O(n)<O(n logn)<O(2^n)<O(n^2)
D. O(n logn)<O(n)<O(logn)<O(n^2)<O(2^n)

81. What is weighted graph?
A. In a weighted graph, each edge is assigned with some data such as negative length or weight.
B. In a weighted graph, each edge is assigned with some data such as loop.
C. In a weighted graph, each edge is assigned with no data.
D. In a weighted graph, each edge is assigned with some data such as length or weight.

82. How many searching techniques are available?
1
2
3
4

83. What are the two ways to represent tree datastructure?
Array
Linked list
Both
none

84. What is non-linear datastructure?

A. If a data structure organizes the data in sequential order, then that data structure is called as Non-Linear Data Structure.
B. If a data structure organizes the data in some order, then that data structure is called as Non-Linear Data Structure.
C. If a data structure organizes the data in random order, then that data structure is called as Non-Linear Data Structure.
D. If a data structure organizes the data in preorder, then that data structure is called as Non-Linear Data Structure.

85. What is the worst case time complexity of selection sort?
O(n)
O(n logn)
O(n^2)
O(log n)

86. What for time and space complexities are defined?
A. Time and Space complexities are defined for 'n-1' number of elements.
B. Time and Space complexities are defined for 'n' number of elements.
C. Time and Space complexities are defined for 'n!' number of elements.
D. Time and Space complexities are defined for 'n-2' number of elements.

87. What is the definition of Big omega notation?
A. f(n)=O(g(n)) if and only if there exist a positive constant c and n0, such that f(n)>=c*g(n), for all n ,where n>=n0.
B. f(n)=O(g(n)) if and only if there exist a positive constant c and n0, such that f(n)<=c*g(n), for all n ,where n>=n0.
C. f(n)=O(g(n)) if and only if there exist a positive constant c and n0, such that f(n)=c*g(n), for all n ,where n>=n0.
D. f(n)=O(g(n)) if and only if there exist a positive constant c and n0, such that f(n)!=c*g(n), for all n ,where n>=n0.

88. What kind of recurrence equation solved using master method?
A. Logarithmic recurrence
B. Homogeneous
C. Nonhomogeneous
D. distanceproblem

89. In which order we can perform sorting?
Increasing
Decreasing
Increasing or decreasing
Both at a time

90. What is the time complexity of linear search?
O(n)
O(nlogn)
O(n^2)
all

91. Which of the following is the algorithm for minimum cost spanning tree?
    Kruskal
    Merge sort
    Dijkstra's
    distance
92. Which of the following is true about binary search?
    A. Binary search can not be performed on a sorted array
    B. Binary search can be performed on a unsorted array
    C. Binary search can be performed on a sorted array
    D. none
93. Which of the following symbol is the used for Big omega notation ?
    ω
    τ
    O
    none
94. What is called as finding the location of the element with a given value?
    Traversal
    Search
    Sort
    none
95. From the following sorting algorithms which has the lowest worst case complexity?
    Bubble
    Quick
    Merge
    selection
96. Which of the following algorithm can be used to efficiently calculate single source shortest paths in a Directed Acyclic Graph?
    Bellmon
    Ford
    Distance
    Topological sort
97. Which of the following is true about Huffman Coding?
    A. Huffman coding may become lossy in some cases
    B. Huffman codes may not be optimal lossless codes in some cases
    C. In huffman coding, no code is prefix of any other code
    D. all
98. Which of the following contains paranthesis after the while loop?
    Condition
    Statement
    Count
    value
99. How the Heap can be defined ?

Complete
Binary tree
Tree structure
none

100. What is the goal of longest common subsequence algorithm?
A. It is solved using backtracking method
B. It is solved using greedy method
C. To calculate common set ofentries
D. To find out set of common subsequence

101. What kind of graph problems are solved using Dijkstra's algorithm?
A. Positive edge length graph
B. Negative edge length graph
C. Both positive and negative edge length graph
D. Neither positive nor negative edge length graph

102. What is balanced binary tree?
A. The tree in which the absolute height of left and right subtrees at any node is greater than 1
B. The tree in which the absolute height of left and right subtrees at any node is less than 1
C. The tree in which the absolute height of left and right subtrees at any node is less or equal to 1
D. The tree in which the absolute height of left and right subtrees at any node is greater than or equal to 1

103. What is the formula for calculating balance factor?
A. heightOfLeftSubtree – heightOfRightSubtree
B. heightOfRightSubtree – heightOfLeftSubtree
C. both A & B
D. none

104. What is graph?
A. Graph is a collection of nodes and edges in which nodes are connected with edges
B. Graph is a collection of nodes only in which nodes are connected with edges
C. Graph is a non-linear data structure
D. both A & C

105. What is adjacent node?
A. If there is no edge between vertices A and B then both A and B are said to be adjacent.
B. B. If there are two edges between vertices A and B then both A and B are said to be adjacent.
C. If there is an edge between vertices A and B then both A and B are said to be adjacent.
D. all

106. What is the full form of AVL?
A. Allen-Velsky and Landis
B. G.M. Adelson-Velsky and E.M. Landis.
C. Allen-Villium and Landis
D. none

107. How many algorithms are used to solve minimum cost spanning tree?
1
2
3
4

108. Which different sorting techniques are in existance?
Bubble
Insertion
Selection
all

109. What is the worst case time complexity of bubble sort?
O(n^2)
O(log n)
O(n)
O(2^n)

110. Which equation is solved using master method?
Logarithmic
Homogeneous
Nonhomogeneous
none

111. Which operations are held out in BST?
Search
Insertion
Deletion
all

112. Which of the following are the characteristics of greedy method?
No.of candidate
Accepted / rejected candidate
Selection procedure
all

113. What are different tree traversal technics?
Inorder
Preorder
Postorder
all

114. What is the rule for postorder traversal?
A. right subtree-left subtree- root
B. root-left subtree-right subtre
C. left subtree-right subtree-root
D. None

115. Which of the following are the applications of dynamic programming method?
A. Matrix Chain Multiplication

B. Longest commonsubsequence
C. TSP
D. all

116. If the list is totally in reverse order and it is asked to arrange in descending order then in which case this analysis is considered?
Worst
Best
Upper
average

117. How many types of binary trees are there?
8
3
10
1

118. Name the scientist who invented Huffman coding?
Huffman
David
Thomas
charles

119. What is the use of Stressen's algorithm?
A. To do addition of numbers
B. For matrix multiplication
C. For matrix addition
D. For matrix subtraction

120. Which method is used to solve Single source shortest path problem?
Greedy
Dynamic programming
Backtracking
None

121. Which operations are performed on AVL tree?
Search
Insertion
Deletion
all

122. What is vertex?
Node
Indivisual data
Collection of data
A & b

123. What is the formula for balance factor?
a.Tree height

b.heightOfLeftSubtree – heightOfRightSubtree
c. heightOfRightSubtree – heightOfLeftSubtree
d. both b & c

124. In minimum cost spanning tree, which graph is used as an input?
Complete
Directed
Undirected
all

125. What is the output of array (5,4,3,2,1) after applying sorting technique, if we want to sort the given array in ascending order?
1,2,3,4,5
1,4,3,2,5
1,4,2,5,3
none

126. What is the best case time complexity of insertion sort?
O(n)
O(n^2)
O(logn)
none

127. How many graph traversal methods are given?
1
2
3
4

128. How many cases are available in master method?
1
2
3
4

129. What is optimization?
Minimization
Maximization
Minimization & maximization
none

130. What is objective function?
E. The function which is used to decide optimal solution
F. The function which is used to select the no. of inputs
G. The function which is used to check feasibility condition
H. all

131. What is the rule for inorder traversal?
Left-root-right
Right-left-root

Left-right-root
none

132. What is dynamic programming method?
Dynamic Programming solves problems by combining the solutions of subproblems.
Dynamic Programming solves problems by dividing the solutions of subproblems.
Dynamic Programming solves problems by combining the solutions of main problem
none

133. Which of the following are the applications of greedy method?
Job scheduling
Shortest path
Minimum spanning tree
all

134. What is binary tree?
The tree which is having atmost two child nodes
The tree which is having one child nodes
The tree which is having morethan three child nodes
none

135. What is the use of Huffman code?
It is used for compressing the data very effectively
Data compression
Image compression
none

136. What is used by Huffman coding algorithm?
Min priority
Max priority
Avg priority
none

137. How many rules are given in Stressen's algorithm?
1
2
3
7

138. Which algorithm is used to solve Single source shortest path problem?
Dijkstra’s
Bellmon ford
Distance
nothing

139. Which algorithm is used to solve minimum cost spanning tree?
Kruskal’s
Prim’s
Both

none

140. What is the root node?

The node at the top of the tree is called root

The node at the bottom of the tree is called root

The node at the middle of the tree is called root

none

141. What is the use of master method?

It is used for solving logarithmic recurrence equation

Used for linear equation

Used for quadratic equation

For arithmetic calculation

142. What is the alternate name of balanced binary tree?

Height balanced binary tree

Depth balanced binary tree

Level balanced

Deep balanced

143. What are different types of rotations can be done on unbalanced tree?

LL

LR

RR

All

144. What are different types of edges?

Undirected

Directed

Weighted

all

145. Which of the following algorithm is used for solving minimum cost spanning tree?

Dijkstras

Kruskal

Distance

none

146. What is worst case time complexity of insertion sort?

O(n^2)

O(n)

O(n logn)

none

147. What type of inputs can be specified in average case?

4,3,5,2,1

2,3,1,4,5

5,1,2,3,4

all

148. If complete sorted array is given as an input to any sorting technique, then what happens to the time complexity of it's algorithm?
Time complexity minimized
Time complexity is more
Time complexity is constant
any

149. Which graph traversal techniques are given?
BFS
DFS
Both
none

150. What is binary search tree?
D. Binary Search Tree is a binary tree in which every node contains only smaller values in its left subtree and only larger values in its right subtree.
E. Binary Tree is a binary tree in which every node contains only smaller values in its left subtree and only larger values in its right subtree.
F. Binary Search Tree is a binary tree in which every node contains only larger values in its left subtree and only larger values in its right subtree.
D. Binary Search Tree is a binary tree in which every node contains only smaller values in its left subtree and only smaller values in its right subtree.

151. What is optimal solution?
Desired sol
Set of sol
No. of sol
none

152. Which two algorithms are used to solve minimum cost spanning tree?
Kruskal's
Prim's
Dijkstra's
Both a & b

153. What is the rule for preorder traversal?
Left-root-right
Root-left-right
Right-left-root
none

154. Which two properties dynamic programming have?
Candidate sol
Overlapping subproblems
Feasibility check
none

155. If the list is totally in reverse order and it is asked to arrange in ascending order then in which case this analysis is considered?

Best
Worst
Avg
Upper bound

156. What are the types of binary tree?
Full
Complete
Perfect
all

157. What form of data is processed in Huffman code ?
Image or set of characters
Data value
Pixel value
all

158. What the LCS stands for?
D. Longest common subsequence
E. Largest common subsequence
F. Lengthy common subsequence
D. Last common subsequence

159. Which of the following is the second largest number in the given array? A=[1,5,9,32,54]
5
54
32
1

160. Which type of graph is used in single source shortest path problem?
Directed
Undirected
Unknown
all

161. What is child node?
In a tree data structure, the node which is predecessor of any node is called as CHILD Node
In a tree data structure, the node which is descendant of any node is called as CHILD Node
In a tree data structure, the node which is not any node is called as CHILD Node
none

162. What is Time complexity?
The time complexity of an algorithm is the total amount of time required by an algorithm to complete its execution
The time complexity of an algorithm is the total amount of time required by an algorithm to complete its calculation
The time complexity of an algorithm is some amount of time required by an algorithm to complete its execution

none

163. What is the formula for Big oh notation?

D. f(n) = O(g(n)), If and only if f(n) <= C g(n) for all n, where n >= n0, C > 0 and n0 >= 1

E. f(n) = O(g(n)), If and only if f(n) >= C g(n) for all n, where n >= n0, C > 0 and n0 >= 1

F. f(n) = O(g(n)), If and only if f(n) = C g(n) for all n, where n >= n0, C > 0 and n0 >= 1

D. f(n) = O(g(n)), If and only if f(n) != C g(n) for all n, where n >= n0, C > 0 and n0 >= 1

164. What are various types of binary tree?

Full

Complete

Perfect

all

165. What is the worst case time complexity of quick sort algorithm?

O(n^2)

O(n)

O(logn)

all

166. What the DFS stands for?

Depth first search

Deep first search

Deepening first search

none

167. What different tree traversal techniques are in existance?

Inorder

Preorder

Postorder

all

168. Which one of the following is the process of inserting an element in the stack?

Insert

Add

Push

none

169. What is graph?

A graph G can be defined as an ordered set G(V, E) where V(G) represents the set of vertices and E(G) represents the set of edges

A graph G can be defined as an unordered set G(V, E) where V(G) represents the set of vertices and E(G) represents the set of edges

A graph G can be defined as an random set G(V, E) where V(G) represents the set of vertices and E(G) represents the set of edges

none

170. What is degree of a node?

D. A degree of a node is the number of edges that are connected with that node.

E. A degree of a node is the number of nodes that are connected with that node.
F. A degree of a node is the number of edges that are not connected with that node.
D. A degree of a node is the number of edges that are connected with egde.

171. What is the advantage of binary search over linear search?
E. It is not needed to scan complete array to find element
F. B. It is needed to scan complete array to find element
G. C. A. It is needed to scan complete array to delete element
H. none

172. What is topological sort?
A.Topological sorting of a Directed Acyclic Graph is an ordering of the vertices v1,v2,...vn in such a way, that if there is an edge directed towards vertex vj from vertex vi, then vi comes before vj
B. of a Directed cyclic Graph is an ordering of the vertices v1,v2,...vn in such a way, that if there is an edge directed towards vertex vj from vertex vi, then vi comes before vj
C. of a undirected Acyclic Graph is an ordering of the vertices v1,v2,...vn in such a way, that if there is an edge directed towards vertex vj from vertex vi, then vi comes before vj
of a Directed Acyclic Graph is an unordering of the vertices v1,v2,...vn in such a way, that if there is an edge directed towards vertex vj from vertex vi, then vi comes before vj

173. What is threaded binary tree?
E. Threaded Binary Tree is also a binary tree in which all left child pointers that are NULL points to its in-order predecessor, and all right child pointers that are NULL points to its in-order successor.
F. B. Threaded Binary Tree is also a binary tree in which all right child pointers that are NULL points to its in-order predecessor, and all left child pointers that are NULL points to its in-order successor.
G. C. Threaded Binary Tree is also a binary tree in which all right child pointers that are NULL points to its in-order predecessor, and all left child pointers that are NULL points to its pre-order successor.
H. D. Threaded Binary Tree is also a binary tree in which all right child pointers that are NULL points to its post-order predecessor, and all left child pointers that are NULL points to its in-order successor.

174. What is linear datastructure?
E. If a data structure organizes the data in unsequential order, then that data structure is called a Linear Data Structure.
F. B. If a data structure organizes the data in sequential order, then that data structure is called a Linear Data Structure.
G. C. If a data structure organizes the data in sequential order, then that data structure is not a Linear Data Structure.
H. D. If a data structure organizes the data in sequential order, then that data structure is called a non - Linear Data Structure.

175. In which category array datastructure includes?
Linear
Non-linear

Combinational
none

176. How the comparison of sorting algorithm performs?

D. The comparison of sorting methods is performed based on the Time complexity and Space complexity of sorting methods.
E. The comparison of sorting methods is performed based on the Space complexity of sorting methods.
F. none

177. What is the definition of Big Oh notation?

178. What for the master method is used?

To solve recurrence
To find shortest path
To find max preofit
anything

179. Which of the following is correct about Divide-and-conquer method?

Breaking the problem into a smaller selections
Breaking the problem into a larger selections
Breaking the problem into a medium selections
none

180. What is the alternate name of shortest path algorithm in greedy method?

Dijkstra's Algorithm
Floyd warshall
Kruskal
Distance

181. What is spanning tree?

E. it is a subset of an undirected Graph that has all the vertices are not connected by minimum number of edges.
F. B. It is a subset of an undirected Graph that has all the vertices connected by minimum number of edges.
G. C. It is a subset of an directed Graph that has all the vertices connected by minimum number of edges.
H. none

182. In stressen's matrix multiplication method, which of the following statement is true about matrix size?

D. The size of matrix are same
E. The size of matrix is not same
F. The size of matrix is zero
D. The size of matrix is not sure

183. Which of the following symbol is the used for Big Oh notation ?

A
G
R

O

184. What is space complexity?

E. The amount of time required by an algorithm to run to its completion.

F. The amount of memory space required by an algorithm to run to its completion.

G. The no. of inputs required by an algorithm to run to its completion.

H. none

185. Which of the following is the incorrect method for sorting?

Insertion

Selection

Deletion

exchange

186. Given two vertices in a graph s and t, which of the two traversals (BFS and DFS) can be used to find if there is path from s to t?

Both BFS and DFS

Neither BFS nor DFS

Only BFS

Only DFS

187. What is the time complexity of Huffman Coding?

O(n logn)

O(n^2)

O(n)

O(n!)

188. Which symbol is used to represent output in a flowchart?

Square

Circle

Parallelogram

triangle

189. Which is the correct order of the efficiency of the following sorting algorithms according to their overall running time comparison?

Bubble>Selection>Insertion

Selection>Bubble>Insertion

Insertion>Bubble>Selection

Insertion>Selection>Bubble

190. What should be the final objective of travelling salesman problem?

Getting max profit

Getting min distance

Getting max distance

Getting graph of min length

191. What is the use of master method?

It is used for solving logarithmic recurrence equation

Used for linear equation

Used for quadratic equation

For arithmetic calculation

192. What is the alternate name of balanced binary tree?

Height balanced binary tree

Depth balanced binary tree

Level balanced

Deep balanced

193. What are different types of rotations can be done on unbalanced tree?

LL

LR

RR

All

194. What are different types of edges?

Undirected

Directed

Weighted

all

195. Which of the following algorithm is used for solving minimum cost spanning tree?

Dijkstras

Kruskal

Distance

none

196. What is worst case time complexity of insertion sort?

O(n^2)

O(n)

O(n logn)

none

197. What type of inputs can be specified in average case?

4,3,5,2,1

2,3,1,4,5

5,1,2,3,4

all

198. If complete sorted array is given as an input to any sorting technique, then what happens to the time complexity of it's algorithm?

Time complexity minimized

Time complexity is more

Time complexity is constant

any

199. Which graph traversal techniques are given?

BFS

DFS

Both

none

200. What is binary search tree?

G. Binary Search Tree is a binary tree in which every node contains only smaller values in its left subtree and only larger values in its right subtree.

H. Binary Tree is a binary tree in which every node contains only smaller values in its left subtree and only larger values in its right subtree.

I. Binary Search Tree is a binary tree in which every node contains only larger values in its left subtree and only larger values in its right subtree.

D. Binary Search Tree is a binary tree in which every node contains only smaller values in its left subtree and only smaller values in its right subtree.