1. What is the path of the tree?
   A. In any tree, the path is the sequence of edges only
   B. In any tree, the path is the sequence of nodes and edges between two nodes
   C. In any tree, the path is the sequence of nodes only
      D. None of the mentioned
2. In infix to postfix conversion, If the reading symbol is operand, then what action must be performed?
   A. Push operand on to the Stack.
   B. Directly print it to the result (Output).
   C. No action should be performed
   D. none
3. What is hash table?
   A. In a hash table, data is stored in an array format, where each data value has its own unique index value.
   B. In a hash table, data is stored in an linked list format, where each data value has its own unique index value.
   C. In a hash table, data is stored in an array format, where each data value has different index value.
      D. In a hash table, data is stored in an array format, where each data value has another index value.
4. What is binary tree?
   A. A tree in which every node can have a maximum of two children is called Binary Tree.
   B. A tree in which every node can have a maximum of three children is called Binary Tree.
   C. A tree in which every node can have a maximum of four children is called Binary Tree.
      D. A tree in which not all node can have a maximum of two children is called Binary Tree.
5. What is Extended binary tree?
   A. The full binary tree obtained by adding internal nodes to a binary tree is called as Extended Binary Tree.
   B. The full binary tree obtained by adding root nodes to a binary tree is called as Extended Binary Tree.
   C. The full binary tree obtained by adding dummy nodes to a binary tree is called as Extended Binary Tree.
   D. none
6. What is recursion?
   A. A function which calls only another function, is called as recursion

B. A function which calls itself or directly to another function, is called as recursion

C. A function which doesn't calls any of the function, is called as recursion

D. none

7. What is matrix?

1 D array

2 D array

It is array

8. Define edge of the tree.

A.In a tree data structure, the non-connecting link between any two nodes is called as EDGE

B. In a tree data structure, the connecting link between any two nodes is called as EDGE

C. In a tree data structure, the connecting link between some nodes is called as EDGE

D. none

9. How many fields are there in single linked list?

2

3

4

1

10. Which functions are performed in queue?

Enqueue()

Dequeue()

Display()

all

11. What is the condition for Big O notation?

A. f(n)=c*g(n)

B. f(n)=O(c*n)

C. f(n)=c*n

D. none

12. What is frequency count of algorithm?

A. No. of time statement is executing

B. No. of steps statement is executing

C. No. of steps

D. none

13. How much time is taken by assignment operation in algorithm?

3 unit

1 unit

0 unit

Any unit

14. Which symbol is used for big omega notation?
    T
    F
    O
    none

15. What is quick sort ?
    Sorting tech
    Searching method
    Ordering method
    all

16. What is datastructure?
    A. Data structure is representation of the logical relationship existing between individual elements of data
    B. Data structure is representation of the data
       C.Data structure is representation of the illogical relationship existing between individual elements of data
    D. none

17. Which of the following operations are performed in the datastructure?
    Creation
    Deletion
    Updation
    all

18. What is sorting?
    A. Arranging the data in ascending or descending order
    B. Arranging the data in any order
    C. Swapping the data
    D. none

19. What is time complexity?
    Time taken by algorithm
    Time required by no. of input
    Both 1 & 2
    none

20. In postfix evaluation, If the reading symbol is operand, then what action must be performed?
    A. Push operand on to the Stack.
    B. Push operator on to the Stack.
    C. Push paranthesis on to the Stack.
    D. Push right paranthesis on to the Stack.

21. In insertion sort algorithm, How many times while loop is executing?
    A. It's time is decreasing
    B. It's time is increasing as the position of element is increasing
    C. It's time is constant
    D. none
22. If the elements '1', '2', '3' and '4' are added in a stack, so what would be the order for the removal?
    1234
    2134
    4321
    none
23. Which of the following is used to express the set of odd positive integers less than 10 ?
    {1,2,3}
    {1,3,5,7,9}
    {1,2,5,9}
    {1,5,7,9,11}
24. Which of the following is the disadvantage of the array?
    A. Stack and Queue data structures can be implemented through an array.
    B. Index of the first element in an array can be negative
    C. Wastage of memory if the elements inserted in an array are lesser than the allocated size
    D. Elements can be accessed sequentially.
25. Which data structure is mainly used for implementing the recursive algorithm?
    Queue
    Stack
    Binary tree
    Linked list
26. Which one of the following node is considered the top of the stack if the stack is implemented using the linked list?
    First node
    Second node
    Last node
    none
27. Which one of the following is the overflow condition if linear queue is implemented using an array with a size MAX_SIZE?
    A. rear = front
    B. rear = front+1
    C. rear=MAX_SIZE -1
    D. rear = MAX_SIZE
28. Which of the following option is true if implementation of Queue is from the linked list?

A. In enqueue operation, new nodes are inserted from the beginning and in dequeue operation, nodes are removed from the end.

B. In enqueue operation, new nodes are inserted from the end and in dequeue operation, nodes are deleted from the beginning.

C. In enqueue operation, new nodes are inserted from the end and in dequeue operation, nodes are deleted from the end.

D. Both A & B

29. Which of the following statement is not true regarding the priority queue?

A. Processes with different priority can be easily handled

B. Easy to implement

C. Deletion is easier

D. none

30. What is the maximum number of children that a node can have in a binary tree?

3

1

4

2

31. Which of the following datastructure is non-linear type?

String

List

Stack

32. What a binary tree whose every node has either zero or two children is known as?

Complete B.T

Binary search tree

Extended B.T

33. In which of the following the inorder traversal of tree will yield a sorted listing of elements of tree?

Binary tree

Binary search tree

Heaps

34. What is postfix expression?

A. A postfix expression is a collection of operators and operands in which the operandis placed after the operator.

B. A postfix expression is a collection of operators and operands in which the operator is placed after the operands.

C. A postfix expression is a collection of operands and operands in which the operator is placed after the operands.

D. A prefix expression is a collection of operators and operands in which the operator is placed after the operands.

35. When the worst case occurs in linear search algorithm?

O(n^2)

O(n)

O(logn)

36. What is postfix expression?

37. If ' h ' is a hashing function and it is used to hash ' n ' keys into a table of size ' m ' where n <= m . What is the expected number of collisions involving a particular key ' x ' ?

Less than1

Less than n

Less than m

Less than n/2

38. In the analysis of algorithms, what plays an important role?

Text analysis

Growth factor

Time

39. A function in which f(n) is $\Omega(g(n))$, if there exist positive values k and c such that f(n)>=c*g(n), for all n>=k. This notation defines a lower bound for a function f(n):

A. Big Omega Ω (f)

B. Big Theta θ (f)

C. Big Oh O (f)

D. none

40. What a mathematical-model with a collection of operations defined on that model is?

Datastructure

Abstract data type

Primitive datatype

algorithm

41. What is the advantage of recursive approach than an iterative approach?

A. Consumes less memory

B. Less code and easy to implement

C. Consumes more memory

D. More code has to be written

42. Which of the following is not an application of binary search?

A. To find the lower/upper bound in an ordered sequence

B. Union of intervals

C. Debugging

      D. To search in unordered list

43. In a full binary tree if number of internal nodes is I, then number of nodes N are?
    A. N = 2*I
    B. N = I + 1
    C. N = I − 1
        D. N = 2*I + 1

44. From the following code identify the which traversal of a binary tree is this?

    function traversal(node)   {   //Input:root node of the tree   //Output:None
    visitLeft(node)   //if node has left child
    traversal(node.left)   visitRoot(node)   traversal(node.root)   visitRight(node)
    //if   node has right child   traversal(node.right)
              }

    Inorder
    Euler tour
    Post order
    preorder

45. Which of the following statement(s) about stack data structure is/are NOT correct?
    A. Stack data structure can be implemented using linked list
    B. New node can only be added at the top of the stack
    C. Stack is the FIFO data structure
    D. The last node at the bottom of the stack has a NULL link

46. If the elements "A", "B", "C" and "D" are placed in a stack and are deleted one at a time, in what order will they be removed?

    ABCD
    DCBA
    DCAB
    ABDC

47. Which of the following is an infix expression?

48. A linear collection of data elements where the linear node is given by means of pointer,what it is called as?

    Linkedlist
    Node list
    Primitive list
    none

49. The given array is arr = {1,2,4,3}. Bubble sort is used to sort the array elements. How many iterations will be done to sort the array?

    4
    2
    1

0
50. Where is linear searching used?
    A. When the list has only a few elements
    B. When performing a single search in an unordered list
    C. Used all the time
    D. When the list has only a few elements and When performing a single search in an
       unordered list
51. Which one of the following is not the application of the stack data structure?
    String reversal
    Recursion
    Backtracking
    Asynchronous data transfer
52. If the elements '1', '2', '3' and '4' are added in a queue, so what would be the order for the
    removal?
    1234
    2134
    4321
    none
53. In any tree, with "N" nodes how many maximum of edges should be there?
    N
    n-1
    n-2
    n-3
54. In postfix evaluation, If the reading symbol is operand, then what action must be
    performed?
    Push operand onto the stack
    Push operator onto the stack
    Push paranthesis on to the stack
    Push right paranthesis onto the stack
55. What are the various types of expression?
    Prefix
    Infix
    Postfix
    all
56. Which one of the following is the limitations of hash table?
    Rehashing
    Collision
    Structured probing
    none
57. What the Strictly binary tree is also called as?

Complete

Perfect

Full

extended

58. What is min heap?
   A. Where the value of the root node is less than or equal to either of its children.
   B. Where the value of the root node is greater than or equal to either of its children.
   C. Where the value of the root node is less than or equal to either of its children.
   D. Where the value of the root node is less than or equal to one of its children.

59. What is true about towers of hanoi?
   A. No large disk can sit over a small disk in case of tower of hanoi.
   B. Large disk can sit over a small disk in case of tower of hanoi.
   C. No small disk can sit over a large disk in case of tower of Hanoi
   D. none

60. How to create python list?
   A. a=["apple", "mango", "strawberry"]
   B. ["apple", "mango", "strawberry"]
   C. ["apple", "mango", "strawberry"]=a
      D. "apple", "mango", "strawberry"

61. Define root node.
   A. In a tree data structure, the last node is called as Root Node.
   B. In a tree data structure, the first node is called as Root Node.
   C. In a tree data structure, the middle node is called as Root Node.
      D. In a tree data structure, the second node is called as Root Node.

62. What are different types of linked list?
   Single
   Double
   Circular
   all

63. What ADT stands for?
   Absolute datatype
   Abstract data type
   Advanced datatype
   all

64. What is Asymptotic means?
   Approximation
   Transformation
   Transfer
   none

65. How many notations are used to represent time complexity?

1
2
3
4

66. How much time is required for execution of simple arithmetic & logical operation?

3 unit

1 unit

0 unit

Any unit

67. Which symbol is used for big oh notation?

O

R

T

v

68. Which of the following is not coming under non-primitive data structure?

Graph

Tree

Pointer

stack

69. Which of the following is the prefix form of A+B*C?

A. A+(BC*)

B. +AB*C

C. ABC+*

  D. +A*BC

70. What is the time complexity of quick sort?

O(n^2)

O(logn)

O(n logn)

O(n)

71. Which symbol is used for big Oh notation?

A

B

C

72. State Python list is ordered or unordered?

Ordered

Unordered

Both

73. What is set in datasturcture?

A. It is the unordered collection of objects.

B. It is the ordered collection of objects.

C. It is the ordered collection of classes.

D. It is the unordered collection of classes.

74. How can we describe an array in the best possible way?

A. The Array shows a hierarchical structure.

B. Arrays are immutable.

C. Container that stores the elements of similar types

D. The Array is not a data structure

75. If the size of the stack is 10 and we try to add the 11th element in the stack then what this condition is known as?

Underflow

Garbage collection

Overflow

76. What are the minimum number of stacks required to implement a stack?

1

2

10

77. Which one of the following is not the type of the Queue?

Linear queue

Circular queue

Double ended queue

Single ended queue

78. In the linked list implementation of queue, where will the new element be inserted?

A. At the middle position of the linked list

B. At the head position of the linked list

C. At the tail position of the linked list

D. none

79. Which data structure is the best for implementing a priority queue?

Stack

Linked list

Array

heap

80. Which of the following statement is not true about the doubly linked list?

A. We can traverse in both the directions.

B. It requires extra space

C. Implementation of doubly linked list is easier than the singly linked list

D. It stores the addresses of the next and the previous node

81. In which of the following push() and pop() functions are found?
   Queue
   List
   Stack
   trees

82. To represent hierarchical relationship between elements, which datastructure is suitable?
   Dequeue
   Priority
   Tree
   all

83. What the algorithm that calls itself directly or indirectly is called as?
   Sub algorithm
   Recursion
   Polish notation
   Traversal algorithm

84. What does the following statement means? If e=[u,v] then,
   A. u is adjacent to v but v is not adjacent to u
   B. e begins at u and ends at v
   C. u is processor and v is successor
   D. both B & C

85. What the selected keys in quick sort is known as?
   Outer key
   Inner key
   Partition key
   Pivot key

86. What is a hash table?
   A. A structure that maps values to keys
   B. A structure that maps keys to values
   C. A structure used for storage
      D. A structure used to implement stack and queue

87. What the sorting is useful for?
   Report generation
   Minimizing storage needed
   Making searching easier and efficient
   Both A & C

88. To verify whether a function grows faster or slower than the other function, which of the following asymptotic or mathematical notations are used?
   A. Big Omega Ω (f)
   B. Big Theta θ (f)
   C. Big Oh O (f)

D. all

89. What is the size of an int data type?

4 byte

8 bytes

Depends on system

90. ADT is called as Abstract because –

A. It is the collection of different datatypes

B. It is completely independent datatype

C. Implementation details are hidden

D. none

91. What is the average case time complexity of binary search using recursion?

O(n logn)

O(log n)

O(n)

O(n^2)

92. What the number of edges from the node to the deepest leaf is called as?

Height

Depth

Length

width

93. From the following code identify the which traversal of a binary tree is this?

//if node has left child   order(node.left)

//if node has right child   order(node.right)

visit(node)

Inorder

Preorder

Postorder

Euler tour

94. What is the result of the following operation,   Top (Push (S, X))

Null

S

X

95. What the type of expression in which operator succeeds its operands is called as?

Infix expression

Prefix

Postfix

96. In infix to postfix conversion, what should be done when a left parenthesis '(' is encountered?

It is ignored

It is placed on to output

It is placed in operator stack

The content of operator stack is emptied

97. In circular linked list, insertion of node requires modification of how many pointers?

1 pointer

2 pointer

3 pointer

98. In which of the following a pivot element to partition unsorted list is used?

Merge

Quick

Insertion

selection

99. In which of the following a pivot element to partition unsorted list is used?

A. Elements of mixed data types can be stored.

B. Easier to access the elements in an array

C. Index of the first element starts from 1.

D. Elements of an array cannot be sorted

100.   Which of the following is the advantage of the array data structure?

A. Stack and Queue data structures can be implemented through an array.

B. Index of the first element in an array can be negative

C. Wastage of memory if the elements inserted in an array are lesser than the allocated size

D. Elements can be accessed sequentially.

101.   Which of the following is the disadvantage of the array?

102.   What is tree?

A. Tree is a non-linear data structure which organizes data in hierarchical structure and this is a recursive definition.

B. Tree data structure is a collection of data (Node) which is organized in hierarchical structure recursively

Both A & B

103.   What is siblings?

A. In any tree, the nodes which has same node as a parent node are called siblings

B. In any tree, the nodes which has different node as a parent node are called siblings

C. In any tree, the nodes which has same parents are called siblings

D. Both A & C

104.   What is Expression?
   A. An expression is a collection of operands and operands that represents a specific value.
   B. An expression is a collection of operators and operatos that represents a specific value.
   C. An expression is a collection of operators and operands that represents a specific value.
   D. all

105.   What are different types of hash table?
   Linear probing
   Quadratic probing
   Rehashing
   all

106.   What the Complete binary tree is also called as?
   Extended
   Perfect
   Strictly
   full

107.   What is max heap?
   A. Where the value of the root node is greater than or equal to either of its children.
   B. Where the value of the child node is greater than or equal to either of its children.
   C. Where the value of the root node is less than or equal to either of its children.
      D. Where the value of the root node is greater than or equal to one of its children.

108.   How to create array in python?
   A. a=["apple", "mango", "strawberry"]
   B. ["apple", "mango", "strawberry"]
   C. ["apple", "mango", "strawberry"]=a
      D. "apple", "mango", "strawberry"

109.   State Python list is ordered or unordered?
   Ordered
   Unordered
   Both A&B
   none

110.   What is linked list?
   A. The linked list is a linear data structure that contains a sequence of elements such that each element links to its next element in the sequence
   B. The linked list is a nonlinear data structure that contains a sequence of elements such that each element links to its next element in the sequenceC. The linked list is a linear data structure that contains a sequence of elements such that each element links to its previous element in the sequence

C. C. The linked list is a linear data structure that contains a sequence of elements such that each element links to its previous element in the sequence

D. none

111.   What is queue?

A. "Queue data structure is a collection of similar data items in which insertion and deletion operations are performed based on FIFO principle".

B. "Queue data structure is a collection of different data items in which insertion and deletion operations are performed based on FIFO principle".

C. "Queue data structure is a collection of similar data items in which only insertion operation are performed based on FIFO principle".

D. "Queue data structure is a collection of similar data items in which only deletion operation are performed based on FIFO principle".

112.   Which two pointers are used in the queue?

Front

Rerar

Push

Both A & B

113.   What for the asymptotic notations are used?

A. Asymptotic notations are used to represent the cost complexity of algorithm

B. Asymptotic notations are used to represent the graph complexity of algorithm

C. Asymptotic notations are used to represent the time complexity of algorithm

D. Asymptotic notations are used to represent the tree complexity of algorithm

114.   What is considered for time complexity calculation?

No. of input

No. of output

No. of devices

all

115.   What are different cases of analysis of algorithm exist?

Worst

Best

Avg

all

116.   What is the meaning of asymptotic ?

Closest

Approximation

Exact

all

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

O(n^2)

O(n)

O(logn)

O(n logn)

118.   Which of the following is not coming under primitive data structure?

Int

Float

Tree

char

119.   What is array?

A. An array is representation of single data item

B. An array is defined as a set of finite number of same data items

C. An array is defined as a set of finite number of different data items

D. all

120.   What is quick sort ?

Sorting tech

Searching method

Unordering method

all

121.   What are different asymptotic notations of analysis of algorithm exist?

Big oh

Omega

Theta

all

122.   How middle is calculated in merge sort?

Low+high/2

Low/2

High/2

Low-high/2

123.   In insertion sort, what is the first key value?

124.   Which of the following is the infix expression?

A. A+B*C

B. +A*BC

C. ABC+*

D. none

125.   Which of the following principle does Queue use?

LIFO

FIFO

Linear tree

Ordered array

126.   Which of the following two sets are equal?

A. A = {1, 2} and B = {1}
B. A = {1, 2} and B = {1, 2, 3}
C. A = {1, 2, 3} and B = {2, 1, 3}
   D. A = {1, 2, 4} and B = {1, 2, 3}

127.   When the user tries to delete the element from the empty stack then what this condition is known as?
Underflow
Garbage collection
Overflow
none

128.   Which data structure is required to convert the infix to prefix notation?
Stack
Linked list
Binary tree
queue

129.   A list of elements in which enqueue operation takes place from one end, and dequeue operation takes place from one end, What it is known as?
Binary tree
Stack
Queue
Linked list

130.   What is the time complexity of enqueue operation in Queue?
O(1)
O(n)
O(logn)
O(n logn)

131.   Which of the following is the necessary condition to be checked before deletion from the Queue?
Overflow
Underflow
Rear value
Front value

132.   What would be the time complexity if user tries to insert the element at the end of the linked list ?
O(1)
O(n)
O(logn)
O(n logn)

133.   Which of the following options is not true about the Binary Search tree?

A. The value of the left child should be less than the root node
B. The value of the right child should be greater than the root node.
C. The left and right sub trees should also be a binary search tree
D. none

134.   Which one of the following datastructure is linear type?

String
List
Queue
all

135.   Which of the following sorting algorithm is of divide and conquer type?
Bubble
Insertion
Quick
all

136.   In a graph, if e=[u,v], then what the u & v are called as?
Endpoints of e
Adjacent nodes
Neighbours
all

137.   In which of the following linked list , there is no NULL links?
Singly linkedlist
Linear doubly linked list
Circular linked list
None

138.   What is the order of a matrix?
A. number of rows multiplied number of columns
B. number of columns multiplied number of rows
C. number of rows multiplied number of rows
D. number of columns multiplied number of columns

139.   Which of the following is correct for hashing technique which allocates fixed number of buckets ?
Dynamic hashing
Static hashing
External hashing
Internal hashing

140.   An algorithm performs lesser number of operations when the size of input is small, but performs more operations when the size of input gets larger. State if the statement is True or False or Maybe.
True
False
Maybe
none

141.   What an algorithm that indicates the amount of temporary storage required for running the algorithm, i.e., the amount of memory needed by the algorithm to run for completion is known as?
Big Theta θ (f)
Space complexity
Big Oh O (f)
none

142.   Representation of data structure in memory, what is it known as?
Recursive
Abstract data type
Storage structure
File structure

143.   What is the worst case complexity of binary search using recursion?
O(n logn)
O(logn)
O(n)
O(n^2)

144.   What the number of edges from the root to the node is called as?
Height
Depth
Length
width

145.   What is the second step in preorder traversal of a binary tree?
Traverse right subtree
Traverse left subtree
Traverse right subtree and visit root
Visit root

146.   Which data structure required to check whether an expression contains balanced parenthesis?
Stack
Queue
Array
tree

147.   Consider the following operation performed on a stack of size 5.
Push(1);Pop();Push(2);Push(3);Pop();Push(4);Pop();Pop();Push(5);   After the completion of all operation,How many no of elements will be present on stack?
1
2
3
4

148.   When an operand is read, which of the following is done in infix to postfix conversion?
It is placed on to output
It is placed in operator stack
It is ignored
Operator stack is emptied

149.   Linked lists are not suitable to for the implementation of what?
Insertion sort
Radix sort
Polynomial manipulation
Binary search

150.   What is alternate name of quick sort?
Merge
Tree
Shell
Partition & exchange

151.   Which of the following is correct recurrence for worst case of Binary Search?
A. $T(n) = 2T(n/2) + O(1)$ and $T(1) = T(0) = O(1)$
B. $T(n) = T(n-1) + O(1)$ and $T(1) = T(0) = O(1)$
C. $T(n) = T(n/2) + O(1)$ and $T(1) = T(0) = O(1)$
    D. $T(n) = T(n-2) + O(1)$ and $T(1) = T(0) = O(1)$

152.   Which of the following operations is not O(1) for an array of sorted data. You may assume that array elements are distinct.
A. Find the ith largest element
B. Delete an element
C. Find the ith smallest element
D. All

153.   What is Extended binary tree?
E. The full binary tree obtained by adding internal nodes to a binary tree is called as Extended Binary Tree.
F. The full binary tree obtained by adding root nodes to a binary tree is called as Extended Binary Tree.

G. The full binary tree obtained by adding dummy nodes to a binary tree is called as Extended Binary Tree.

H. none

154.   What is recursion?

E. A function which calls only another function, is called as recursion

F. A function which calls itself or directly to another function, is called as recursion

G. A function which doesn't calls any of the function, is called as recursion

H. none

155.   What is matrix?

1 D array

2 D array

It is array

156.   Define edge of the tree.

A.In a tree data structure, the non-connecting link between any two nodes is called as EDGE

B. In a tree data structure, the connecting link between any two nodes is called as EDGE

C. In a tree data structure, the connecting link between some nodes is called as EDGE

D. none

157.   How many fields are there in single linked list?

2

3

4

1

158.   Which functions are performed in queue?

Enqueue()

Dequeue()

Display()

all

159.   What is the condition for Big O notation?

f(n)=c*g(n)

f(n)=O(c*n)

f(n)=c*n

160.   What is frequency count of algorithm?

No. of time statement is executing

No. of steps statement is executing

No. of steps

161.   How much time is taken by assignment operation in algorithm?
    3 unit
    1 unit
    0 unit
    Any unit

162.   Which symbol is used for big omega notation?
    T
    F
    O
    none

163.   What is quick sort ?
    Sorting tech
    Searching method
    Ordering method
        All

164.   What is siblings?
        A. In any tree, the nodes which has same node as a parent node are called siblings
        B. In any tree, the nodes which has different node as a parent node are called siblings
        C. In any tree, the nodes which has same parents are called siblings
        D. Both A & C

165.   What is Expression?
        An expression is a collection of operands and operands that represents a specific value.
        An expression is a collection of operators and operatos that represents a specific value.
        An expression is a collection of operators and operands that represents a specific value.
        all

166.   What are different types of hash table?
    Linear probing
    Quadratic probing
    Rehashing
    all

167.   What the Complete binary tree is also called as?
    Extended
    Perfect
    Strictly
    full

168.   What is max heap?

Where the value of the root node is greater than or equal to either of its children.
Where the value of the child node is greater than or equal to either of its children.
Where the value of the root node is less than or equal to either of its children.
Where the value of the root node is greater than or equal to one of its children.

169.   How to create array in python?

a=["apple", "mango", "strawberry"]

["apple", "mango", "strawberry"]

["apple", "mango", "strawberry"]=a

"apple", "mango", "strawberry"

170.   State Python list is ordered or unordered?

Ordered

Unordered

Both A&B

171.   What is linked list?

The linked list is a linear data structure that contains a sequence of elements such that each element links to its next element in the sequence

The linked list is a nonlinear data structure that contains a sequence of elements such that each element links to its next element in the sequenceC. The linked list is a linear data structure that contains a sequence of elements such that each element links to its previous element in the sequence

 The linked list is a linear data structure that contains a sequence of elements such that each element links to its previous element in the sequence

172.   What is queue?

"Queue data structure is a collection of similar data items in which insertion and deletion operations are performed based on FIFO principle".

"Queue data structure is a collection of different data items in which insertion and deletion operations are performed based on FIFO principle".

"Queue data structure is a collection of similar data items in which only insertion operation are performed based on FIFO principle".

"Queue data structure is a collection of similar data items in which only deletion operation are performed based on FIFO principle".

173.   Which two pointers are used in the queue?

Front

Rerar

Push

Both A & B

174.   What for the asymptotic notations are used?

Asymptotic notations are used to represent the cost complexity of algorithm

Asymptotic notations are used to represent the graph complexity of algorithm

Asymptotic notations are used to represent the time complexity of algorithm

Asymptotic notations are used to represent the tree complexity of algorithm

175.   Which of the following datastructure is non-linear type?

String

List

Stack

176.   What a binary tree whose every node has either zero or two children is known as?

Complete B.T

Binary search tree

Extended B.T

177.   In which of the following the inorder traversal of tree will yield a sorted listing of elements of tree?

Binary tree

Binary search tree

Heaps

178.   What is postfix expression?

A postfix expression is a collection of operators and operands in which the operandis placed after the operator.

A postfix expression is a collection of operators and operands in which the operator is placed after the operands.

A postfix expression is a collection of operands and operands in which the operator is placed after the operands.

A prefix expression is a collection of operators and operands in which the operator is placed after the operands.

179.   When the worst case occurs in linear search algorithm?

O(n^2)

O(n)

O(logn)

180.   What is postfix expression?

181.   If ' h ' is a hashing function and it is used to hash ' n ' keys into a table of size ' m ' where n <= m . What is the expected number of collisions involving a particular key ' x ' ?

Less than1

Less than n

Less than m

Less than n/2

182.   In the analysis of algorithms, what plays an important role?

Text analysis

Growth factor

Time

183.   A function in which f(n) is Ω(g(n)), if there exist positive values k and c such that f(n)>=c*g(n), for all n>=k. This notation defines a lower bound for a function f(n):

E. Big Omega Ω (f)

F. Big Theta θ (f)

G. Big Oh O (f)

H. none

184.   What a mathematical-model with a collection of operations defined on that model is?

Datastructure

Abstract data type

Primitive datatype

algorithm

185.   What is the advantage of recursive approach than an iterative approach?

Consumes less memory

Less code and easy to implement

Consumes more memory

More code has to be written

186.   Which of the following is not an application of binary search?

To find the lower/upper bound in an ordered sequence

Union of intervals

Debugging

 To search in unordered list

187.   In a full binary tree if number of internal nodes is I, then number of nodes N are?

N = 2*I

N = I + 1

N = I – 1

N = 2*I + 1

188.   From the following code identify the which traversal of a binary tree is this?

function traversal(node)   {   //Input:root node of the tree   //Output:None

visitLeft(node)   //if node has left child

traversal(node.left)   visitRoot(node)   traversal(node.root)   visitRight(node)

//if   node has right child   traversal(node.right)

        }

Inorder

Euler tour

Post order

preorder

189.   Which of the following statement(s) about stack data structure is/are NOT correct?

Stack data structure can be implemented using linked list

New node can only be added at the top of the stack

Stack is the FIFO data structure

The last node at the bottom of the stack has a NULL link

190.   If the elements "A", "B", "C" and "D" are placed in a stack and are deleted one at a time, in what order will they be removed?

ABCD

DCBA

DCAB

ABDC

191.   Which of the following is an infix expression?

192.   A linear collection of data elements where the linear node is given by means of pointer,what it is called as?

Linkedlist

Node list

Primitive list

193.   The given array is arr = {1,2,4,3}. Bubble sort is used to sort the array elements. How many iterations will be done to sort the array?

4

2

1

0

194.   Where is linear searching used?

When the list has only a few elements

When performing a single search in an unordered list

Used all the time

When the list has only a few elements and When performing a single search in an unordered list

195.   What is recursion?

A function which calls only another function, is called as recursion

A function which calls itself or directly to another function, is called as recursion

A function which doesn't calls any of the function, is called as recursion

196.   What is matrix?

1 D array

2 D array

It is array

197.   Define edge of the tree.

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$f(n)=O(c*n)$

$f(n)=c*n$