

CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P - Data Structures (Practical) (Lab 5,6 Quiz)

Question # 1 of 10 (**Start time: 11:51:12 PM, 30 May 2023**)

Which file extension is used in C++ to keep the class interface in a separate

Select the correct option

☐

.txt

☒

.h

☐

.exe

☐

.c

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CS301P - Data Structures (Practical) (Lab 1,2 Quiz)

Question # 1 of 10 (Start time: 11:37:11 PM, 19 May 2023)

Which of the following Linked List method moves the pointer forward?

Select the correct option

☐	add ()
☐	remove ()
☐	start ()
☒	next ()

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Question # 2 of 10 (Start time: 11:38:19 PM, 19 May 2023)

Which type of linked list has two Null pointers?

Select the correct option

- | | |
|----------------------------------|---------------------------|
| ☒ | Doubly linked list |
| ☐ | Circularly linked list |
| ☐ | None of the given options |
| ☐ | Singly linked list |

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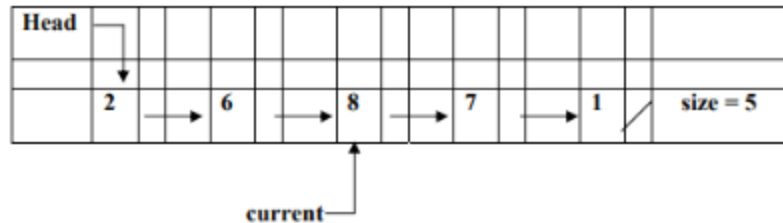
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CS301P – Data Structures (Practical) (Lab 1,2 Quiz)

Question # 3 of 10 (Start time: 11:39:11 PM, 19 May 2023)

Consider a list {2,6,8,7,1} represented as a linked list. In this list "current" is a:



Select the correct option

☐

List element

☒

Pointer

☐

List object

☐

Head node

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CS301P – Data Structures (Practical) (Lab 1,2 Quiz)

Question # 4 of 10 (Start time: 11:41:09 PM, 19 May 2023)

In stack when a new element is added from the start of array, the stack elements are shifted towards _____.

Select the correct option

☐	Top
☐	Right
☐	Left
☒	Bottom

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CS301P - Data Structures (Practical) (Lab 1,2 Quiz)

Question # 5 of 10 (Start time: 11:42:47 PM, 19 May 2023)

In a doubly linked list, we can traverse the list in _____.

Select the correct option

- | | |
|----------------------------------|-------------------|
| ☐ | No direction |
| ☐ | Reverse direction |
| ☐ | Forward direction |
| ☒ | Both directions |

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CS301P - Data Structures (Practical) (Lab 1,2 Quiz)

Question # 6 of 10 (**Start time: 11:43:36 PM, 19 May 2023**)

In data structures, List is the collection of elements in _____.

Select the correct option

- | | |
|----------------------------------|------------------|
| ☐ | Random order |
| ☐ | Non-linear order |
| ☒ | Linear order |
| ☐ | Descending order |

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Question # 7 of 10 (Start time: 11:44:19 PM, 19 May 2023)

Nodes in the linked list are accessed in _____ order:

Select the correct option

☐	Non-linear
☐	Descending
☒	Sequential
☐	Random

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Question # 8 of 10 (Start time: 11:44:59 PM, 19 May 2023)

What does the following method do for a given linked list class?

```
void traverse(List list)
{
    Node* savedCurrentNode = list.currentNode;
    list.currentNode = list.headNode;
    for(int i = 1; list.next(); i++)
    {cout << "\n Element " << i << " " << list.get(); }
    list.currentNode = savedCurrentNode;
}
```

Select the correct option

☒	Adding new nodes
☐	Updating the values of nodes
☐	Deleting nodes
☐	Displaying the values of nodes

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CS301P - Data Structures (Practical) (Lab 1,2 Quiz)

Question # 9 of 10 (**Start time: 11:46:36 PM, 19 May 2023**)

The stack will be considered full, if the current variable is equal to _____.

Select the correct option

☐	Size +1
☒	Size -1
☐	Size ++
☐	Size

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CS301P – Data Structures (Practical) (Lab 1,2 Quiz)

Question # 10 of 10 (Start time: 11:48:28 PM, 19 May 2023)

When the call to remove a node is made, a node which is being pointed by _____ will be deleted.

Select the correct option

☐	Last Current node
☒	Null node
☐	head Node
☐	Current node

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CS301P - Data Structures (Practical) (Lab 1,2 Quiz)

Question # 1 of 10 (Start time: 11:52:01 PM, 19 May 2023)

Removing an element from the end of stack using a linked list takes _____ time than removing an element from the start.

Select the correct option

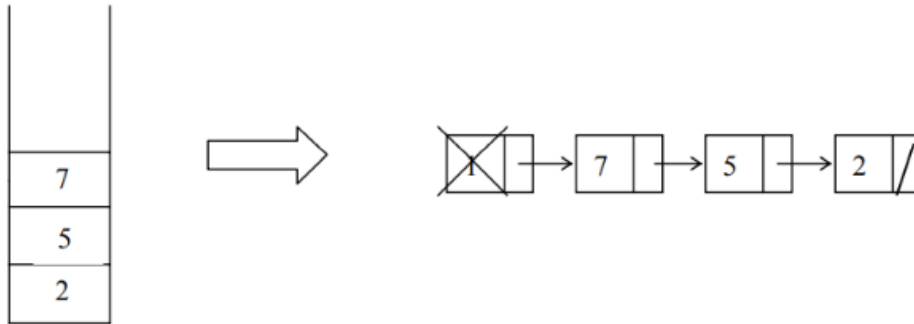
☐	More
☒	Equal
☐	No
☐	Less

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Question # 2 of 10 (Start time: 11:52:56 PM, 19 May 2023)

In the given stack what will be the head and top after removing node with value 1?



Select the correct option

- | | |
|----------------------------------|---------|
| ☐ | 7 and 5 |
| ☐ | 5 |
| ☒ | 7 |
| ☐ | 2 |

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CS301P - Data Structures (Practical) (Lab 1,2 Quiz)

Question # 3 of 10 (Start time: 11:53:51 PM, 19 May 2023)

What is the output of the following program?

```
int main ()  
{  
    int array [5] = {10,20,30,40,50};  
    cout << array [3];  
    return 0;  
}
```

Select the correct option

☐	Syntax Error
☒	40
☐	30
☐	50

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Question # 4 of 10 (**Start time: 11:54:41 PM, 19 May 2023**)

All the operations in stack take _____ time.

Select the correct option

☐	Maximum
☐	Zero
☐	Minimum
☒	Constant

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Question # 5 of 10 (Start time: 11:55:21 PM, 19 May 2023)

In Linked List, add () method will add the new node after -----.

Select the correct option

- | | |
|----------------------------------|---------------------------|
| ☐ | Last Current node |
| ☐ | head Node |
| ☒ | None of the given options |
| ☐ | Current node |

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CS301P - Data Structures (Practical) (Lab 1,2 Quiz)

Question # 7 of 10 (Start time: 11:57:17 PM, 19 May 2023)

What will be value of second element of array 'x' after the execution of the given code?

```
int main()
{
    int x[3];
    for(int j = 0; j < 3; j++)
        x[j] = 2 * j;
    return 0;
}
```

Select the correct option

☐	4
☐	1
☒	2
☐	0

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CS301P - Data Structures (Practical) (Lab 1,2 Quiz)

Question # 8 of 10 (**Start time: 11:58:26 PM, 19 May 2023**)

In data structures, List is the collection of elements in _____.

Select the correct option

☒	Non-linear order
☐	Descending order
☐	Linear order
☐	Random order

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CS301P - Data Structures (Practical) (QUIZ # 1 (Graded))

Question # 2 of 10 (**Start time: 11:41:51 PM, 26 May 2023**)

The stack will be considered full, if the current variable is equal to _____.

Select the correct option

- | | |
|----------------------------------|---------|
| ☐ | Size +1 |
| ☐ | Size ++ |
| ☒ | Size -1 |
| ☐ | Size |

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CS301P - Data Structures (Practical) (Lab 1,2 Quiz)

Question # 10 of 10 (Start time: 12:00:47 AM, 20 May 2023)

When the call to remove a node is made, a node which is being pointed by _____ will be deleted.

Select the correct option

- | | |
|----------------------------------|-------------------|
| ☐ | Null node |
| ☒ | Last Current node |
| ☐ | Current node |
| ☐ | head Node |

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CS301P - Data Structures (Practical) (QUIZ # 1 (Graded))

Question # 3 of 10 (Start time: 11:42:45 PM, 26 May 2023)

When an operator is found in stack while evaluating a postfix expression, which of the following operation is performed on previous two operands?

Select the correct option

☐	Enqueue
☒	pop
☐	None of the given options
☐	push

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CS301P - Data Structures (Practical) (QUIZ # 1 (Graded))

Question # 4 of 10 (Start time: 11:43:35 PM, 26 May 2023)

What will be value of second element of array 'x' after the execution of the given code?

```
int main()
{
    int x[3];
    for(int j = 0; j < 3; j++)
        x[j] = 2 * j;
    return 0;
}
```

Select the correct option

☐	0
☐	4
☒	2
☐	1

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CS301P - Data Structures (Practical) (QUIZ # 1 (Graded))

Question # 5 of 10 (Start time: 11:44:25 PM, 26 May 2023)

Each operator in a postfix expression refers to the previous _____ operand(s).

Select the correct option

- | | |
|----------------------------------|---|
| ☐ | 0 |
| ☒ | 2 |
| ☐ | 1 |
| ☐ | 3 |

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CS301P - Data Structures (Practical) (QUIZ # 1 (Graded))

Question # 6 of 10 (Start time: 11:45:00 PM, 26 May 2023)

In data structures, List is the collection of elements in _____.

Select the correct option

- | | |
|----------------------------------|------------------|
| ☐ | Random order |
| ☐ | Non-linear order |
| ☐ | Descending order |
| ☒ | Linear order |

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CS301P – Data Structures (Practical) (QUIZ # 1 (Graded))

Question # 7 of 10 (Start time: 11:45:37 PM, 26 May 2023)

Which of the following is used in function calls?

Select the correct option

☒	Stack
☐	Queue
☐	Tree
☐	Linked list

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Question # 10 of 10 (Start time: 11:47:27 PM, 26 May 2023)

The depth of a complete binary tree is 6 , the number of its non-leaf nodes will be:

Select the correct option

- | | |
|----------------------------------|----|
| ☐ | 61 |
| ☐ | 64 |
| ☒ | 63 |
| ☐ | 6 |

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CS301P – Data Structures (Practical) (QUIZ # 1 (Graded))

Question # 1 of 10 (Start time: 11:54:33 PM, 26 May 2023)

Which method of Node class returns the value of node in a Linked list?

Select the correct option

☐	start()
☐	tail()
☒	get()
☐	back()

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CS301P - Data Structures (Practical) (QUIZ # 1 (Graded))

Question # 4 of 10 (Start time: 11:55:23 PM, 26 May 2023)

What is the output of the following program?

```
int main ()  
{  
    int array [5] = {10,20,30,40,50};  
    cout << array [3];  
    return 0;  
}
```

Select the correct option

☐	Syntax Error
☒	40
☐	30
☐	50

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CS301P – Data Structures (Practical) (QUIZ # 1 (Graded))

Question # 5 of 10 (Start time: 11:55:58 PM, 26 May 2023)

The Top() points towards _____ in the stack when a function call is made ?

Select the correct option

☐	Function arguments
☐	Function name
☐	Local variables of function
☒	Return address of function

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CS301P – Data Structures (Practical) (QUIZ # 1 (Graded))

Question # 6 of 10 (**Start time: 11:56:34 PM, 26 May 2023**)

Which of the following queue does not always follow FIFO behavior?

Select the correct option

- | | |
|----------------------------------|--------------------|
| ☐ | Double-ended queue |
| ☐ | Simple queue |
| ☐ | Circular queue |
| ☒ | Priority queue |

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CS301P – Data Structures (Practical) (QUIZ # 1 (Graded))

Question # 9 of 10 (Start time: 11:57:35 PM, 26 May 2023)

What value will be returned by the given function if the values of 'a' and 'b' are 2 and 3 respectively?

```
int i_avg (int a, int b)
{
    return (a++ + ++b) / 2;
}
```

Select the correct option

☒	6
☐	4
☐	5
☐	7

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CS301P – Data Structures (Practical) (Lab 5,6 Quiz)

Question # 2 of 10 (**Start time: 11:52:08 PM, 30 May 2023**)

Which of the following condition will be true if a node is NULL during the in-order traversal using recursive c

Select the correct option

- | | |
|----------------------------------|--|
| ☐ | Node contains only left child |
| ☐ | Node can contain only one child |
| ☒ | Node does not contain both left and right children |
| ☐ | Node contains only right child |

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CS301P - Data Structures (Practical) (Lab 5,6 Quiz)

Question # 3 of 10 (**Start time: 11:53:07 PM, 30 May 2023**)

We can use & symbol with _____ data type.

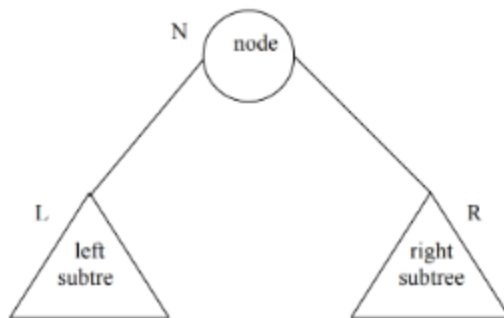
Select the correct option

☐	User Defined
☒	Integer
☐	Float
☐	Any

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Which of the following is the in-order traversal of the given tree?



Select the correct option

☐	(N, L, R)
☒	(L, N, R)
☐	(R, L, N)
☐	(L, R, N)

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CS301P – Data Structures (Practical) (Lab 5,6 Quiz)

Question # 5 of 10 (**Start time: 11:54:27 PM, 30 May 2023**)

How many comparison(s) will be made at each level of a BST for searching a number which is not present in BST?

Select the correct option

☒	4
☐	1
☐	3
☐	2

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CS301P - Data Structures (Practical) (Lab 5,6 Quiz)

Question # 6 of 10 (Start time: 11:55:01 PM, 30 May 2023)

Which traversal method should be maintained when a node is deleted from a Binary Search Tree?

Select the correct option

☐	Post-Order
☐	Pre-Order
☒	In-Order
☐	Level Order

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CS301P - Data Structures (Practical) (Lab 5,6 Quiz)

Question # 7 of 10 (**Start time: 11:55:59 PM, 30 May 2023**)

Recursion is performed with the help of _____ data structure.

Select the correct option

☐	Linked List
☐	Binary Tree
☒	Stack
☐	Queue

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CS301P - Data Structures (Practical) (Lab 5,6 Quiz)

Question # 8 of 10 (**Start time: 11:56:32 PM, 30 May 2023**)

Which of the following is visited at last step in post-order traversal method?

Select the correct option

☐	Left Node
☐	Right Node
☐	Leaf Node
☒	Root Node

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CS301P - Data Structures (Practical) (Lab 5,6 Quiz)

Question # 9 of 10 (Start time: 11:57:06 PM, 30 May 2023)

Which of the following is a reserved keyword of C++?

Select the correct option

☒	define
☐	remove
☐	del)
☐	add

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CS301P - Data Structures (Practical) (Lab 5,6 Quiz)

Question # 10 of 10 (**Start time: 11:57:37 PM, 30 May 2023**)

Which of the following memory portion is used to dynamically allocate the memory?

Select the correct option

☐	Queue
☐	Stack
☒	Heap
☐	Code

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CS301P – Data Structures (Practical) (Lab 5,6 Quiz)

Question # 1 of 10 (Start time: 11:58:45 PM, 30 May 2023)

When a node is deleted from a BST, its in-order successor will be the left-most node of _____.

Select the correct option

☐	Left subtree
☐	Root
☐	Leaf node
☒	Right subtree

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What does the following traversal code do?

```
void func (TreeNode* treeNode) {  
    if( treeNode != NULL ) {  
        func(treeNode->getLeft());  
        func(treeNode->getRight());  
        cout << *(treeNode->getInfo())<<" ";  
    }  
}
```

Select the correct option

☐	In-order traversal
☐	Level-order traversal
☐	Preorder traversal
☒	Post-order traversal

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CS301P - Data Structures (Practical) (Lab 5,6 Quiz)

Question # 3 of 10 (**Start time: 12:00:16 AM, 31 May 2023**)

We can use & symbol with _____ data type.

Select the correct option

☒	Any
☐	User Defined
☐	Float
☐	Integer

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CS301P - Data Structures (Practical) (Lab 5,6 Quiz)

Question # 4 of 10 (**Start time: 12:00:48 AM, 31 May 2023**)

How many comparison(s) will be made at each level of a BST for searching a number which is not present in BST?

Select the correct option

☐	1
☐	3
☒	2
☐	4

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CS301P – Data Structures (Practical) (Lab 5,6 Quiz)

Question # 5 of 10 (**Start time: 12:01:26 AM, 31 May 2023**)

Level order traversal of a binary tree can be implemented with _____ data structure.

Select the correct option

☐	Stack
☐	Binary Tree
☒	Queue
☐	Linked List

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CS301P – Data Structures (Practical) (Lab 5,6 Quiz)

Question # 6 of 10 (**Start time: 12:02:08 AM, 31 May 2023**)

In C++, ampersand '&' symbol is used for:

Select the correct option

☒	Pointers
☐	Static variables
☐	Arrays
☐	Reference Variables

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Question # 7 of 10 (**Start time: 12:02:49 AM, 31 May 2023**)

In recursive functions, recursion is stopped by using:

Select the correct option

☐	Binary Search trees
☐	Function prototype
☐	Function Signature
☒	Terminating conditions

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CS301P – Data Structures (Practical) (Lab 5,6 Quiz)

Question # 8 of 10 (**Start time: 12:03:35 AM, 31 May 2023**)

Which of the following is visited at last step in post-order traversal method?

Select the correct option

☐	Leaf Node
☐	Right Node
☒	Root Node
☐	Left Node

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CS301P - Data Structures (Practical) (Lab 5,6 Quiz)

Question # 9 of 10 (**Start time: 12:04:22 AM, 31 May 2023**)

Which of the following condition will be true if a node is NULL during the in-order traversal using recursive calls?

Select the correct option

☒	Node does not contain both left and right children
☐	Node contains only right child
☐	Node contains only left child
☐	Node can contain only one child

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CS301P - Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 1 of 10 (**Start time: 11:15:38 PM, 31 May 2023**)

If there are two paths to reach to certain node, then the data structure will be:

Select the correct option

☐	Binary search tree
☒	Graph
☐	Simple tree
☐	Heap

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

BC220213510: ADIL ALVI

CS301P - Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 2 of 10 (**Start time: 11:17:04 PM, 31 May 2023**)

Which of the following represents the destructor of Binary Search Tree class?

Select the correct option

☒	void ~BinarySearchTree()
☐	~BinarySearchTree()
☐	BinarySearchTree() ~
☐	BinarySearchTree()

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CS301P - Data Structures (Practical) (Lab 5,6 Quiz)

Question # 10 of 10 (Start time: 12:05:19 AM, 31 May 2023)

Binary search tree class is defined as a template class so that it can be used for _____ datatype(s).

Select the correct option

☐	Integer
☐	Character
☐	Strings
☒	Any

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CS301P - Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 3 of 10 (**Start time: 11:18:02 PM, 31 May 2023**)

What will be the output of the given c++ program?

```
#include <iostream>
using namespace std;
void func(int &a)
{
    int temp = 10;
    a = temp;
    temp=a;
    cout<<temp;
}
int main()
{
    int a = 5;
    func(a);
    return 0;
}
```

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Select the correct option

☐	10
☐	0
☐	Syntax error
☒	5

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CS301P - Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 4 of 10 (**Start time: 11:19:39 PM, 31 May 2023**)

If there is a complete binary tree of depth 4, the total number of nodes in it will be:

Select the correct option

☐	30
☐	32
☒	31
☐	33

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CS301P – Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 5 of 10 (Start time: 11:20:39 PM, 31 May 2023)

What does the following traversal code do?

```
void func (TreeNode* treeNode) {  
    if( treeNode != NULL ) {  
        func(treeNode->getLeft());  
        func(treeNode->getRight());  
        cout << *(treeNode->getInfo())<<" ";  
    }  
}
```

Select the correct option

☐	In-order traversal
☐	Level-order traversal
☒	Post-order traversal
☐	Preorder traversal

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BC220213510: ADIL ALVI

CS301P - Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 6 of 10 (**Start time: 11:22:13 PM, 31 May 2023**)

In a binary tree, level of root node is :

Select the correct option

- | | |
|----------------------------------|--------------------------------------|
| ☐ | 2 |
| ☐ | Same as the level of its right child |
| ☐ | Same as the level of its left child |
| ☒ | 0 |

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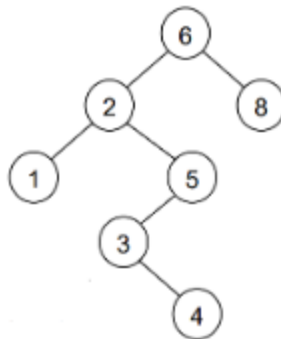
CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

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CS301P - Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 7 of 10 (Start time: 11:22:59 PM, 31 May 2023)

Which of the following are the leaf nodes in given tree?



Select the correct option

- | | |
|----------------------------------|-------|
| ☐ | 1,8,3 |
| ☒ | 1,8,4 |
| ☐ | 1,5,3 |
| ☐ | 1,5,8 |

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BC220213510: ADIL ALVI

CS301P - Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 8 of 10 (**Start time: 11:24:19 PM, 31 May 2023**)

Which of the following symbol is used for assigning addresses to pointer variables?

Select the correct option

☐	*
☐	->
☐	>
☒	&

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CS301P - Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 9 of 10 (**Start time: 11:25:17 PM, 31 May 2023**)

Which traversal method should be maintained when a node is deleted from a Binary Search Tree?

Select the correct option

☒	In-Order
☐	Post-Order
☐	Level Order
☐	Pre-Order

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BC220213510: ADIL ALVI

CS301P - Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 10 of 10 (**Start time: 11:26:09 PM, 31 May 2023**)

The code of BST traversal methods becomes very short by using:

Select the correct option

☒	Recursive calls
☐	Friend functions
☐	Non-recursive calls
☐	Heap

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

BC220213511: WAJID ALVI

CS301P - Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 2 of 10 (Start time: 11:28:02 PM, 31 May 2023)

When a node is deleted from a BST, its in-order successor will be the left-most node of _____.

Select the correct option

☒	Right subtree
☐	Root
☐	Leaf node
☐	Left subtree

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

BC220213511: WAJID ALVI

CS301P - Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 3 of 10 (**Start time: 11:28:57 PM, 31 May 2023**)

In C++, ampersand '&' symbol is used for:

Select the correct option

☐	Static variables
☐	Arrays
☒	Reference Variables
☐	Pointers

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CS301P – Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 4 of 10 (**Start time: 11:31:08 PM, 31 May 2023**)

Which of the following condition will be true if a node is NULL during the in-order traversal using recursive calls?

Select the correct option

☐	Node can contain only one child
☐	Node contains only right child
☒	Node does not contain both left and right children
☐	Node contains only left child

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BC220213511: WAJID ALVI

CS301P - Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 5 of 10 (**Start time: 11:31:58 PM, 31 May 2023**)

A new node is added at the _____ of queue.

Select the correct option

☒	Rear
☐	Front
☐	Middle
☐	None of the given options

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

BC220213511: WAJID ALVI

CS301P - Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 6 of 10 (**Start time: 11:32:45 PM, 31 May 2023**)

Which traversal method should be maintained when a node is deleted from a Binary Search Tree?

Select the correct option

☐	Level Order
☐	Post-Order
☐	Pre-Order
☒	In-Order

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BC220213511: WAJID ALVI

CS301P – Data Structures (Practical) (QUIZ # 2 (Graded))

Question # 8 of 10 (**Start time: 11:33:50 PM, 31 May 2023**)

Which of the following queue does not always follow FIFO behavior?

Select the correct option

- | | |
|----------------------------------|--------------------|
| ☐ | Simple queue |
| ☐ | Double-ended queue |
| ☐ | Circular queue |
| ☒ | Priority queue |

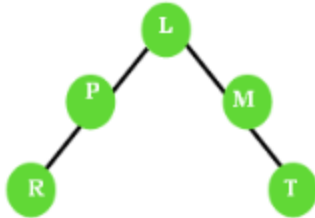
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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P – Data Structures (Practical) (Lab 9,10 Quiz)

Question # 1 of 10 (Start time: 09:16:20 PM, 06 July 2023)

Which node will become unbalanced if a node is inserted as child of the node R in the given tree?



Select the correct option

☐	R
☐	M
☒	L
☐	P

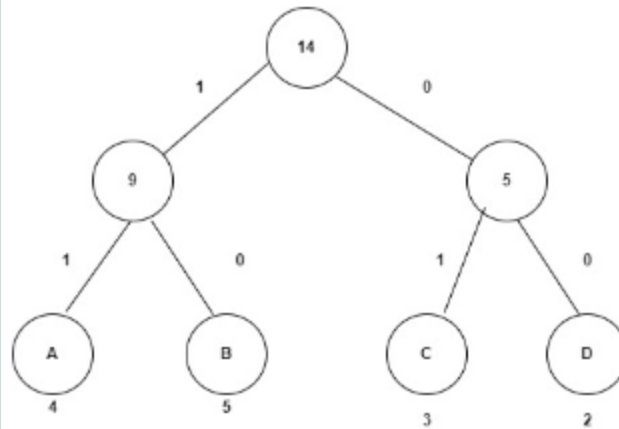
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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P - Data Structures (Practical) (Lab 9,10 Quiz)

Question # 2 of 10 (Start time: 09:18:27 PM, 06 July 2023)

What is the encoding of character 'C' in the given Huffman encoding?



Select the correct option

☐	10
☒	00
☐	11
☐	01

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P - Data Structures (Practical) (Lab 9,10 Quiz)

Question # 3 of 10 (Start time: 09:20:01 PM, 06 July 2023)

Which of the following represents frequency of all characters in Huffman Encoding tree?

Select the correct option

☒	Leaf Node
☐	Right Branch
☐	Left Branch
☐	Root Node

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CS301P - Data Structures (Practical) (Lab 9,10 Quiz)

Question # 4 of 10 (**Start time: 09:21:02 PM, 06 July 2023**)

If the tree becomes unbalance after deleting a node then we use _____ to rebalance it.

Select the correct option

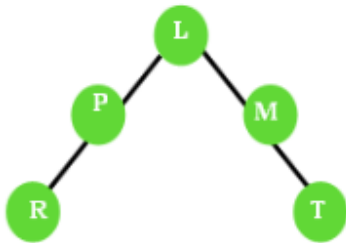
☐	Insertions
☐	Stack
☒	Rotations
☐	Heap

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

Question # 5 of 10 (Start time: 09:21:46 PM, 06 July 2023)

How many rotations will be made if a node is inserted as left child of the node R in the given tree?



Select the correct option

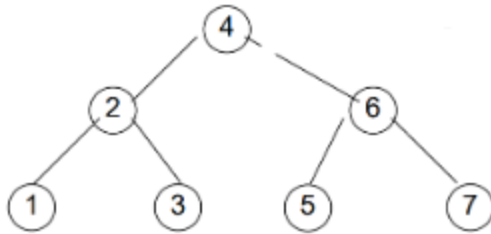
☐	2
☐	1
☐	3
☒	4

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Question # 7 of 10 (Start time: 09:24:37 PM, 06 July 2023)

What will be the balance factor of node 2 if node 1 is deleted from the given tree ?



Select the correct option

☐	1
☐	0
☐	2
☒	-1

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P – Data Structures (Practical) (Lab 9,10 Quiz)

Question # 8 of 10 (**Start time: 09:26:02 PM, 06 July 2023**)

A binary tree will not be considered an AVL tree if the difference between left and right subtree of each node is not more than :

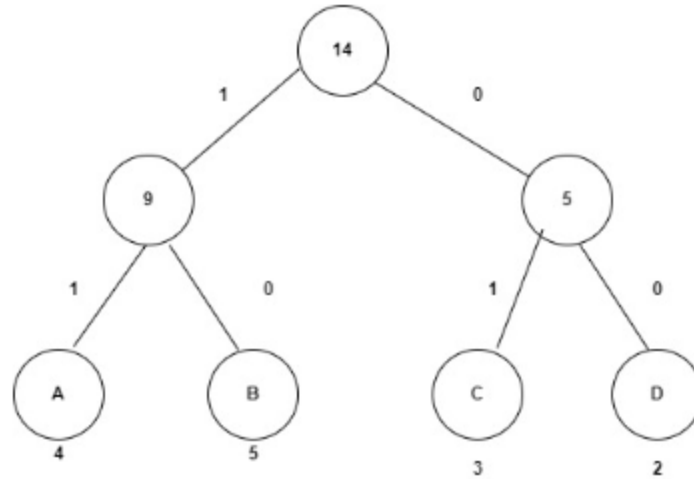
Select the correct option

☐	3
☐	0
☒	1
☐	2

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

What is the total frequency of character 'B' in the given Huffman encoding tree?



Select the correct option

☐	0
☐	9
☐	5
☒	14

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CS301P – Data Structures (Practical) (Lab 9,10 Quiz)

Question # 10 of 10 (**Start time: 09:27:36 PM, 06 July 2023**)

The ASCII value for character 'A' is:

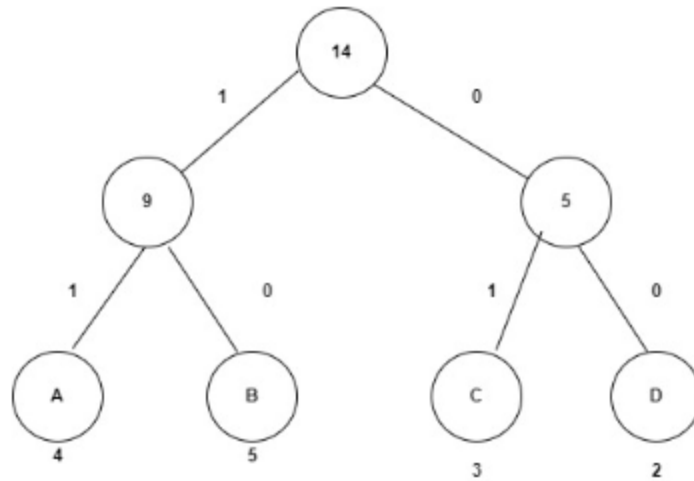
Select the correct option

☒	65
☐	68
☐	67
☐	66

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

What is the total frequency of character 'B' in the given Huffman encoding tree?



Select the correct option

☐	0
☒	5
☐	9
☐	14

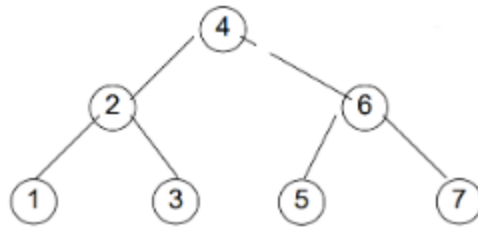
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CS301P - Data Structures (Practical) (Lab 9,10 Quiz)

Question # 6 of 10 (Start time: 09:55:47 PM, 06 July 2023)

What will be the balance factor of node 6 if node 5 is deleted from the given tree ?



Select the correct option

☐	-1
☒	1
☐	2
☐	0

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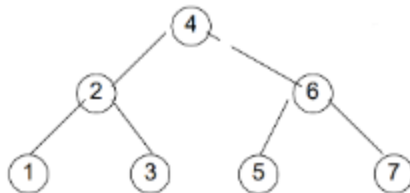
CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

MC210200158: SADAF NOREEN

CS301P – Data Structures (Practical) (Lab 9,10 Quiz)

Question # 8 of 10 (Start time: 09:57:36 PM, 06 July 2023)

What will be the balance factor of node 2 if node 1 is deleted from the given tree ?



Select the correct option

☒	-1
☐	2
☐	0
☐	1

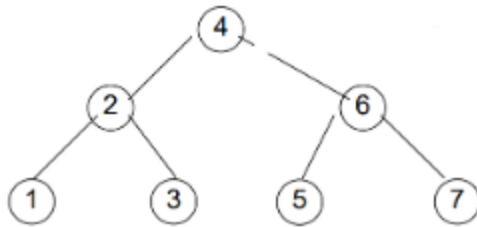
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CS301P - Data Structures (Practical) (Lab 9,10 Quiz)

Question # 1 of 10 (Start time: 10:02:56 PM, 06 July 2023)

What will be the balance factor of node 6 if node 5 is deleted from the given tree ?



Select the correct option

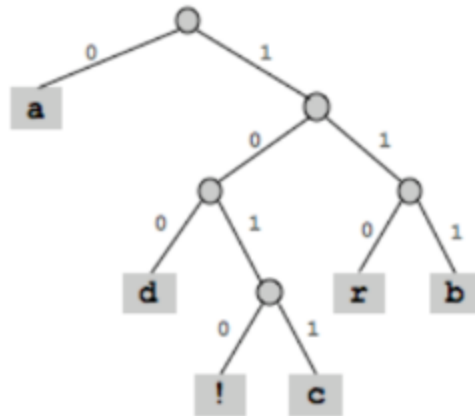
☐	0
☐	2
☐	1
☒	-1

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

Question # 4 of 10 (Start time: 10:04:18 PM, 06 July 2023)

Which of the following bit stream represents the string 'cab' in the given Huffman tree?



Select the correct option

☐ 1011 0 110

☐ 1011 0 111

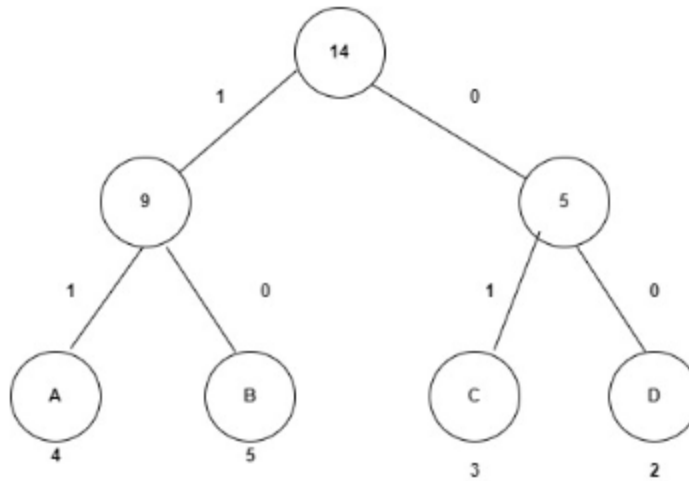
☒ 110 1011 0

☐ 100 110 111

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

What is the encoding of character 'C' in the given Huffman encoding tree?



Select the correct option

☐	11
☐	01
☒	10
☐	00

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P - Data Structures (Practical) (QUIZ # 3 (Graded))

Question # 1 of 10 (Start time: 10:32:39 PM, 14 July 2023)

Which of the following represents frequency of all characters in Huffman Encoding tree?

Select the correct option

- | | |
|----------------------------------|--------------|
| ☒ | Leaf Node |
| ☐ | Left Branch |
| ☐ | Right Branch |
| ☐ | Root Node |

CS301P - Data Structures (Practical) (QUIZ # 3 (Graded))

Question # 3 of 10 (Start time: 10:34:57 PM, 14 July 2023)

A complete binary tree with a property that the value at each node is at least as small as the values in its children are called as _____.

Select the correct option

- | | |
|----------------------------------|--------------------|
| ☐ | Binary tree |
| ☐ | Max Heap |
| ☐ | Binary search tree |
| ☒ | Min Heap |

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CS301P - Data Structures (Practical) (QUIZ # 3 (Graded))

Question # 4 of 10 (Start time: 10:36:07 PM, 14 July 2023)

If the tree becomes unbalance after deleting a node then we use _____ to rebalance it.

Select the correct option

☐	Heap
☐	Insertions
☐	Stack
☒	Rotations

CS301P - Data Structures (Practical) (QUIZ # 3 (Graded))

Question # 5 of 10 (Start time: 10:37:05 PM, 14 July 2023)

A binary tree will not be considered an AVL tree if the difference between left and right subtree of each node is not more than :

Select the correct option

☐	0
☒	1
☐	2
☐	3

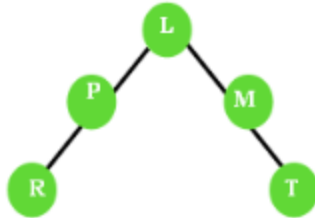
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CS301P - Data Structures (Practical) (QUIZ # 3 (Graded))

Question # 6 of 10 (Start time: 10:38:09 PM, 14 July 2023)

Which node will become unbalanced if a node is inserted as child of the node R in the given tree?



Select the correct option

☒	L
☐	R
☐	M
☐	P

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CS301P - Data Structures (Practical) (QUIZ # 3 (Graded))

Question # 8 of 10 (Start time: 10:39:29 PM, 14 July 2023)

Consider a max heap, represented by the following array:

49, 39, 36, 31, 27, 21, 35, 12

After the deletion of node with value 49. Which of the following is the updated max heap?

Select the correct option

- | | |
|----------------------------------|----------------------------|
| ☐ | 39, 36, 31, 12, 27, 21, 35 |
| ☐ | 39, 36, 35, 21, 27, 31, 12 |
| ☐ | 39, 36, 31, 27, 21, 35, 12 |
| ☒ | 39, 31, 36, 12, 27, 21, 35 |

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CS301P - Data Structures (Practical) (QUIZ # 3 (Graded))

Question # 9 of 10 (**Start time: 10:40:41 PM, 14 July 2023**)

Which of the following node has the maximum value in a max heap?

Select the correct option

- | | |
|----------------------------------|----------------------------|
| ☐ | Right most child |
| ☐ | Left most child |
| ☒ | Root node |
| ☐ | None of the given options. |

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P – Data Structures (Practical) (QUIZ # 3 (Graded))

Question # 10 of 10 (**Start time: 10:41:28 PM, 14 July 2023**)

A hole is created which needs to be filled if the element is _____ from the heap.

Select the correct option

☐	Inserted
☐	There is no concept of hole in heap
☒	Deleted
☐	Updated

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P – Data Structures (Practical) (QUIZ # 3 (Graded))

Question # 4 of 10 (Start time: 10:46:15 PM, 14 July 2023)

Consider a min heap, represented by the following array:

5,6,8,9,7

After deleting the root node. Which of the following is the updated min heap?

Select the correct option

- | | |
|----------------------------------|---------|
| ☐ | 6,8,9,7 |
| ☐ | 6,7,9,8 |
| ☐ | 8,7,9,6 |
| ☒ | 6,7,8,9 |

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CS301P - Data Structures (Practical) (QUIZ # 3 (Graded))

Question # 7 of 10 (**Start time: 10:47:45 PM, 14 July 2023**)

Consider the max heap represented by the following array. Which of the following is the parent of node 14?

50,40,30,20,25,26,27,18,14

Select the correct option

☒	20
☐	30
☐	40
☐	50

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P - Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 1 of 10 (Start time: 10:02:10 PM, 19 July 2023)

In min heap, deletemin() will put the _____ element at the first position of the array.

Select the correct option

☐	Third
☐	None of the given options.
☒	Last
☐	Second

CS301P - Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 2 of 10 (Start time: 10:03:02 PM, 19 July 2023)

A complete binary tree with a property that the value at each node is at least as small as the values in its children are called as _____.

Select the correct option

☐	Binary tree
☒	Min Heap
☐	Max Heap
☐	Binary search tree

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P - Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 3 of 10 (Start time: 10:04:39 PM, 19 July 2023)

Consider a max heap, represented by the following array:

49, 39, 36, 31, 27, 21, 35, 12

After the deletion of node with value 49. Which of the following is the updated max heap?

Select the correct option

- | | |
|----------------------------------|----------------------------|
| ☐ | 39, 36, 31, 27, 21, 35, 12 |
| ☐ | 39, 36, 35, 21, 27, 31, 12 |
| ☐ | 39, 36, 31, 12, 27, 21, 35 |
| ☒ | 39, 31, 36, 12, 27, 21, 35 |

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P - Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 4 of 10 (Start time: 10:05:31 PM, 19 July 2023)

In the given array representation of a tree constructed with Union by size method, which node is the parent of 7?

-1	-1	-1	3	3	5	5	7
1	2	3	4	5	6	7	8

Select the correct option

☐	1
☐	2
☒	5
☐	7

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

Question # 5 of 10 (Start time: 10:06:36 PM, 19 July 2023)

Consider a min heap, represented by the following array:

5,6,8,9,7

After deleting the root node. Which of the following is the updated min heap?

Select the correct option

- | | |
|----------------------------------|---------|
| ☒ | 6,7,8,9 |
| ☐ | 6,7,9,8 |
| ☐ | 6,8,9,7 |
| ☐ | 8,7,9,6 |

CS301P - Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 6 of 10 (Start time: 10:07:15 PM, 19 July 2023)

If the value to be searched in array using binary search algorithm is less than the mid value, this value will be searched in _____ of array.

Select the correct option

- | | |
|----------------------------------|-------------|
| ☒ | First half |
| ☐ | Mid index |
| ☐ | Last index |
| ☐ | Second half |

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P – Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 7 of 10 (**Start time: 10:08:18 PM, 19 July 2023**)

Which of the following method takes an array to make a heap out of it?

Select the correct option

☐	Insert ()
☐	percolatedown ()
☒	Buildheap()
☐	traverse ()

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CS301P – Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 8 of 10 (Start time: 10:09:04 PM, 19 July 2023)

What would be the "mid" index if value 10 is find from the given array using binary search algorithm?

1	5	7	9	10	13	17	19	27
0	1	2	3	4	5	6	7	8

Select the correct option

☐	7
☐	0
☐	8
☒	4

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CS301P - Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 9 of 10 (**Start time: 10:09:59 PM, 19 July 2023**)

Union by size is also known as:

Select the correct option

☒	Union by Weight
☐	Union by Height
☐	Union by nodes
☐	Union by Root

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CS301P - Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 10 of 10 (**Start time: 10:12:02 PM, 19 July 2023**)

Which of the following method take one element at a time to make a heap?

Select the correct option

☒	Insert ()
☐	traverse ()
☐	Buildheap()
☐	percolatedown ()

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CS301P - Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 1 of 10 (**Start time: 10:13:54 PM, 19 July 2023**)

Consider the max heap represented by the following array. Which of the following is the parent of node 14?

50,40,30,20,25,26,27,18,14

Select the correct option

☐	30
☒	20
☐	50
☐	40

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P - Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 2 of 10 (Start time: 10:15:10 PM, 19 July 2023)

In the given array representation of a tree constructed with Union by size method, which node(s) are without parent node?

-1	-1	-1	3	3	5	5	7
1	2	3	4	5	6	7	8

Select the correct option

☒	1,2,3
☐	2,3
☐	1,3
☐	1,2

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CS301P – Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 3 of 10 (Start time: 10:16:25 PM, 19 July 2023)

If we call the union function as union (5, 7), then the name of the new set will be _____.

Select the correct option

- | | |
|----------------------------------|-----|
| ☐ | 7 |
| ☐ | 5+7 |
| ☒ | 5&7 |
| ☐ | 5 |

CS301P – Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 4 of 10 (Start time: 10:17:44 PM, 19 July 2023)

In Binary Search Algorithm, if the value being searched is greater than "mid ", then updated "low" for the right half of array will be computed as:

Select the correct option

- | | |
|----------------------------------|-----------------|
| ☐ | Low = mid * 2 |
| ☐ | Low = mid +high |
| ☐ | Low = mid – 1 |
| ☒ | Low = mid +1 |

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CS301P - Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 6 of 10 (Start time: 10:19:10 PM, 19 July 2023)

Which of the following formula gives the index position of the right child of "i" ?

Select the correct option

- | | |
|----------------------------------|--------|
| ☐ | $i/2$ |
| ☐ | $2*i$ |
| ☒ | $2i+1$ |
| ☐ | $2+i$ |

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CS301P - Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 7 of 10 (**Start time: 10:20:46 PM, 19 July 2023**)

Which of the following formula gives the index position of the left child of "i"?

Select the correct option

- | | |
|----------------------------------|--------|
| ☒ | $2i+1$ |
| ☐ | $i/2$ |
| ☐ | $2*i$ |
| ☐ | $2+i$ |

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CS301P - Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 8 of 10 (Start time: 10:21:26 PM, 19 July 2023)

Which of the following method take one element at a time to make a heap?

Select the correct option

☐	Buildheap()
☐	traverse ()
☒	Insert ()
☐	percolatedown ()

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CS301P - Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 9 of 10 (Start time: 10:22:08 PM, 19 July 2023)

Which of the following method takes an array to make a heap out of it?

Select the correct option

- | | |
|----------------------------------|------------------|
| ☐ | percolatedown () |
| ☐ | Insert () |
| ☒ | Buildheap() |
| ☐ | traverse () |

CS301P - Data Structures (Practical) (QUIZ # 4 (Graded))

Question # 10 of 10 (Start time: 10:22:46 PM, 19 July 2023)

In Binary Search Algorithm, if the value being searched is smaller than "mid ", then updated "high" for the left half of array will be computed as:

Select the correct option

- | | |
|----------------------------------|-----------------|
| ☒ | High = mid - 1 |
| ☐ | High = mid +1 |
| ☐ | High = mid +low |
| ☐ | High = mid * 2 |

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P - Data Structures (Practical) (Lab 11,12 Quiz)

Question # 1 of 10 (Start time: 08:10:03 PM, 21 July 2023)

Which of the following node has the maximum value in a max heap?

Select the correct option

☐	Left most child
☐	None of the given options.
☐	Right most child
☒	Root node

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P - Data Structures (Practical) (Lab 11,12 Quiz)

Question # 2 of 10 (Start time: 08:10:48 PM, 21 July 2023)

Which of the following formula gives the index position of the right child of "i" ?

Select the correct option

- | | |
|----------------------------------|--------|
| ☐ | $2+i$ |
| ☐ | $i/2$ |
| ☐ | $2*i$ |
| ☒ | $2i+1$ |

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P – Data Structures (Practical) (Lab 11,12 Quiz)

Question # 3 of 10 (Start time: 08:13:00 PM, 21 July 2023)

Consider the max heap represented by the following array. Which of the following is the parent of node 14?

50,40,30,20,25,26,27,18,14

Select the correct option

☐	40
☐	50
☒	20
☐	30

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P – Data Structures (Practical) (Lab 11,12 Quiz)

Question # 4 of 10 (Start time: 08:14:24 PM, 21 July 2023)

Which of the following formula gives the index position of the left child of "i"?

Select the correct option

- | | |
|----------------------------------|--------|
| ☒ | $2i+1$ |
| ☐ | $i/2$ |
| ☐ | $2+i$ |
| ☐ | $2*i$ |

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CS301P ALL QUIZZES 2023 SOLVED BY PRINCE ALVI

CS301P - Data Structures (Practical) (Lab 11,12 Quiz)

Question # 6 of 10 (Start time: 08:16:08 PM, 21 July 2023)

Consider a max heap, represented by the following array:

49, 39, 36, 31, 27, 21, 35, 12

After the deletion of node with value 49. Which of the following is the updated max heap?

Select the correct option

- | | |
|----------------------------------|----------------------------|
| ☐ | 39, 36, 31, 27, 21, 35, 12 |
| ☒ | 39, 31, 36, 12, 27, 21, 35 |
| ☐ | 39, 36, 31, 12, 27, 21, 35 |
| ☐ | 39, 36, 35, 21, 27, 31, 12 |

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CS301P – Data Structures (Practical) (Lab 11,12 Quiz)

Question # 9 of 10 (Start time: 08:22:16 PM, 21 July 2023)

A hole is created which needs to be filled if the element is _____ from the heap.

Select the correct option

☐	Inserted
☐	Updated
☒	Deleted
☐	There is no concept of hole in heap

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CS301P – Data Structures (Practical) (Lab 11,12 Quiz)

Question # 10 of 10 (**Start time: 08:24:03 PM, 21 July 2023**)

Which of the following method take one element at a time to make a heap?

Select the correct option

- | | |
|----------------------------------|------------------|
| ☐ | traverse () |
| ☐ | Buildheap() |
| ☒ | Insert () |
| ☐ | percolatedown () |

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