CS301 - Data Structures

100% Correct Solve (Alhamdulillah)

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https://www.youtube.com/channel/UCjboEX65C_yN7as5di1OuIQ/playlists_Sadiq Ahmed

CS301:Quiz No. 1

Question # 1 of 10 (Start time: 04:16:07 PM, 29 January 2021)

If there are 56 internal nodes in a binary tree then how many external nodes this binary tree will have?

Select the correct option

- 54
- 55
- 56
- 57

CS301:Quiz No. 1

Question # 2 of 10 (Start time: 04:16:29 PM, 29 January 2021)

In threaded binary tree, the NULL pointers are replaced by the

Select the correct option

- preorder successor or predecessor
- inorder successor or predecessor
- postorder successor or predecessor
- NULL pointers are not replaced

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Question # 3 of 10 (Start time: 04:16:50 PM, 29 January 2021)

If there are 23 external nodes in a binary tree then what will be the no. of internal nodes in this binary tree?

Select the correct option

- 21
- 22
- 23
- 24

CS301:Quiz No. 1

Quiz Start Time: 04:16 PM, 29 Janu

Question # 4 of 10 (Start time: 04:17:13 PM, 29 January 2021) Total

Which of the following statement is correct?

Select the correct option

- A Threaded Binary Tree is a binary tree in which every node that does not have a left child has a THREAD (in actual sense, a link) to its INORDER successor.
- A Threaded Binary Tree is a binary tree in which every node that does not have a right child has a THREAD (in actual sense, a link) to its PREOREDR successor.
- A Threaded Binary Tree is a binary tree in which every node that does not have a right child has a THREAD (in actual sense, a link) to its INORDER successor.
- A Threaded Binary Tree is a binary tree in which every node that does not have a right child has a THREAD (in actual sense, a link) to its POSTORDER successor.

Click to Save Answer & Move to Next Que

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Question # 5 of 10 (Start time: 04:17:35 PM, 29 January 2021)

Consider a max heap, represented by the following array:
40,30,20,10,15,16,17,8,4

Which of the following is the index of the parent of node 15?

Select the correct option

- 0
- 1
- 2
- 3

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Quiz Start

Question # 6 of 10 (Start time: 04:17:56 PM, 29 January 2021)

In which of the following tree, parent node has key greater than or equal to its both children?

Select the correct option

- Max heap
- Binary search tree
- Threaded Binary tree
- Complete Binary tree

Click to Save Answ

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Question # 7 of 10 (Start time: 04:18:16 PM, 29 January 2021)

Which one of the following is TRUE about iteration?

Select the correct option

- Iterative function calls consumes a lot of memory
- Threaded Binary Trees use the concept of iteration
- Iteration extensively uses stack memory
- Recursion is more efficient than iteration

Click to S

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Question # 8 of 10 (Start time: 04:18:36 PM, 29 January 2021)

Which one of the following traversals give the mathematical expression of an expression tree,

Select the correct option

- inorder
- preorder
- levelorder
- postorder

Cli

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Quiz Star

Question # 9 of 10 (Start time: 04:18:56 PM, 29 January 2021)

Consider a min heap, represented by the following array:
10,30,20,60,40,50,80,70

After inserting a node with value 31.Which of the following is the updated min heap?

Select the correct option

- 10,30,20,31,40,50,80,70,60
- 10,30,20,70,40,50,80,60,31
- 10,30,20,31,40,50,80,60,70
- 31,10,30,20,70,40,50,80,60

Click to Save Ans

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Question # 10 of 10 (Start time: 04:19:17 PM, 29 January 2021)

If both pointers of the node in a binary tree are NULL then it will be a/an

Select the correct option

- Inner node
- Leaf node
- Root node
- None of the given options

CS301:Quiz No. 1

Question # 1 of 10 (Start time: 01:47:34 AM, 29 January 2021)

Consider a binary tree, represented by the following array:
10,7,9,5,2,1,6,3,4

This is a _____.

Select the correct option

- ○ Min heap
- ◉ Max heap
- ○ Threaded binary tree
- ○ Binary Search tree

CS301:Quiz No. 1

Quiz Start Time: 01:4

Question # 2 of 10 (Start time: 01:48:20 AM, 29 January 2021)

A Threaded Binary Tree is a binary tree in which every node that does not have a right child has a THREAD (in actual sense, a link) to its _____ successor.

Select the correct option

- Preorder
- Inorder
- Postorder
- levelorder

Click to Save Answer & Mov

CS301:Quiz No. 1

Quiz Start Time: 01:47 AM, 29

Question # 3 of 10 (Start time: 01:48:48 AM, 29 January 2021)

A Threaded Binary Tree is a binary tree in which every node that does not have a right child has a THREAD (in actual sense, a link) to its _____ successor

Select the correct option

- Preorder
- Inorder
- Postorder
- levelorder

Click to Save Answer & Move to Next

CS301:Quiz No. 1

Qu

Question # 4 of 10 (Start time: 01:49:11 AM, 29 January 2021)

We implement the heap by _____ .

Select the correct option

- Threaded Tree
- AVL tree
- Complete binary tree
- Expression tree

Click to Sav

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Question # 5 of 10 (Start time: 01:49:30 AM, 29 January 2021)

Consider a complete binary tree, represented by the following array (array index starts at 1):
19, 7, 15, 6, 4, 13, 2, 3, 2
What will be values of the children of the node with value '15'?

Left:_____ Right:_____

Select the correct option

- ○ 19,7
- ○ 6,4
- ○ 4,13
- ◉ 13,2

Click to Save

CS301:Quiz No. 1

Question # 6 of 10 (Start time: 01:49:54 AM, 29 January 2021)

There are _____cases in the process of deletion of a node in AVL Tree,

Select the correct option

- 2
- 3
- 4
- 5 (selected)

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Quiz St

Question # 7 of 10 (Start time: 01:50:14 AM, 29 January 2021)

Consider a min heap, represented by the following array:
3,4,6,7,5,10

After inserting a node with value 1. Which of the following is the updated min heap?

Select the correct option

- 3,4,6,7,5,10,1
- 3,4,6,7,5,1,10
- 1,4,6,7,5,10,3
- 1,4,3,7,5,10,6

Click to Save A

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Question # 8 of 10 (Start time: 01:50:36 AM, 29 January 2021)

In building Huffman encoding tree from leaf nodes,

Select the correct option

- we start with characters with least frequencies.
- we start with characters with maximum frequencies.
- we start with characters with medium frequencies.
- none of the options.

Click to

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Question # 9 of 10 (Start time: 01:50:57 AM, 29 January 2021)

Which of the following statement is true about dummy node of threaded binary tree?

Select the correct option

- The left pointer of dummy node points to the itself while the right pointer points to the root of tree.
- The left pointer of dummy node points to the root node of the tree while the right pointer points itself i.e. to dummy node.
- The left pointer of dummy node points to the root node of the tree while the right pointer is always NULL.
- The right pointer of dummy node points to the itself while the left pointer is always NULL.

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Q

Question # 10 of 10 (Start time: 01:51:15 AM, 29 January 2021)

When a complete binary tree, represented by an array then for any array element at position i, the parent is at position _____ .

Select the correct option

- 2i-1
- 2i
- 2i+1
- floor(i/2)

Click to Sa

MC180400184: MUHAMMAD JUNAID

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Qu

Question # 1 of 10 (Start time: 01:53:56 AM, 29 January 2021)

We implement the heap by _____ .

Select the correct option

- Threaded Tree
- AVL tree
- Complete binary tree
- Expression tree

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Quiz

Question # 2 of 10 (Start time: 01:54:24 AM, 29 January 2021)

Which of the following statement is true about dummy node of threaded binary tree?

Select the correct option

- The left pointer of dummy node points to the itself while the right pointer points to the root of tree.
- The left pointer of dummy node points to the root node of the tree while the right pointer points itself i.e. to dummy node.
- The left pointer of dummy node points to the root node of the tree while the right pointer is always NULL.
- The right pointer of dummy node points to the itself while the left pointer is always NULL.

Click to Save

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Question # 3 of 10 (Start time: 01:54:45 AM, 29 January 2021)

When a complete binary tree, represented by an array then for any array element at position i, the parent is at position _____ .

Select the correct option

- 2i-1
- 2i
- 2i+1
- floor(i/2)

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Question # 4 of 10 (Start time: 01:55:07 AM, 29 January 2021)

Which of the following is a property of binary tree?

Select the correct option

- A binary tree of N external nodes has N internal node.
- A binary tree of N internal nodes has N+ 1 external node.
- A binary tree of N external nodes has N+ 1 internal node.
- A binary tree of N internal nodes has N- 1 external node.

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Question # 5 of 10 (Start time: 01:55:29 AM, 29 January 2021)

Consider a max heap, represented by the following array:
40,30,20,10,15,16,17,8,4

Which of the following is the index of the parent of node 15?

Select the correct option

- 0
- 1
- 2
- 3

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Question # 6 of 10 (Start time: 01:55:49 AM, 29 January 2021)

In a min heap the parent node has key smaller than or equal to _____.

Select the correct option

- Left child
- Right child
- Both children
- None of the given options

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Quiz Start

Question # 7 of 10 (Start time: 01:56:09 AM, 29 January 2021)

If the bottom level of a binary tree is NOT completely filled, depicts that the tree is NOT a ----------

Select the correct option

- ○ Complete Binary tree
- ○ Threaded binary tree
- ○ Expression tree
- ◉ Perfectly complete Binary tree

Click to Save Ans

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Question # 8 of 10 (Start time: 01:56:29 AM, 29 January 2021)

A binary tree with 33 internal nodes has _____ links to internal nodes.

Select the correct option

- 31
- 32
- 33
- 34

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Quiz Start Time: 01:53 AM

Question # 9 of 10 (Start time: 01:56:51 AM, 29 January 2021)

For the inorder traversal of threaded binary tree, we introduced a dummy node. The left pointer of the dummy node is pointing to the _____ node of the tree.

Select the correct option

- left most
- root
- right most
- any of the given node

Click to Save Answer & Move to

CS301:Quiz No. 1

Question # 10 of 10 (Start time: 01:57:11 AM, 29 January 2021)

Consider a min heap, represented by the following array:
11,22,33,44,55

After inserting a node with value 66.Which of the following is the updated min heap?

Select the correct option

- 11,22,33,44,55,66
- 11,22,33,44,66,55
- 11,22,33,66,44,55
- 11,22,66,33,44,55

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Qu

Question # 1 of 10 (Start time: 01:58:56 AM, 29 January 2021)

A complete binary tree is a tree that is _____ filled, with the possible exception of the bottom level.

Select the correct option

- partially
- completely
- incompletely
- partly

Click to Sa

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Quiz Start Time

Question # 2 of 10 (Start time: 01:59:15 AM, 29 January 2021)

When a complete binary tree, represented by an array then for any array element at position i, the parent is at position _____ .

Select the correct option

- 2i-1
- 2i
- 2i+1
- floor(i/2)

Click to Save Answer &

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Quiz

Question # 3 of 10 (Start time: 01:59:35 AM, 29 January 2021)

A binary tree with 45 internal nodes has _____links to external nodes.

Select the correct option

- 44
- 45
- 46
- 90

Click to Save

CS301:Quiz No. 1

Quiz Start Time: 01:58 A

Question # 4 of 10 (Start time: 01:59:58 AM, 29 January 2021)

Which of the following statement is not correct about Binary Trees, where binary tree traversals are carried out repeatedly?

Select the correct option

- The overhead of stack operations during recursive calls can be costly.
- If we use non-recursive but stack driven traversal procedure then it would be costly again.
- It is useful to modify the tree data structure which represents the binary tree to speed up the inorder traversal process by making it stack free.
- It is very cumbersome to modify the tree data structure as most of pointer fields are not NULL.

Click to Save Answer & Move

CS301:Quiz No. 1

Question # 5 of 10 (Start time: 02:00:16 AM, 29 January 2021)

In complete binary tree the bottom level is filled from _____

Select the correct option

- Left to right
- Right to left
- Not filled at all
- None of the given options

Click to S

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Question # 6 of 10 (Start time: 02:00:38 AM, 29 January 2021)

Traversing a binary tree can only be done using _____

Select the correct option

- Iteration
- Recursion
- Both recursion and iteration
- None of the given options

Click

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Qu

Question # 7 of 10 (Start time: 02:00:59 AM, 29 January 2021)

If there are 56 internal nodes in a binary tree then how many external nodes this binary tree will have?

Select the correct option

- 54
- 55
- 56
- 57

Click to Sa

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Question # 8 of 10 (Start time: 02:01:20 AM, 29 January 2021)

If the bottom level of a binary tree is not completely filled, depicts that the tree is not a _____.

Select the correct option

- Expression tree
- Threaded binary tree
- complete binary tree
- Perfectly complete binary tree

Click to S

CS301:Quiz No. 1

Quiz Start Time: 01:58 AM, 29

Question # 9 of 10 (Start time: 02:01:42 AM, 29 January 2021)

Which of the following statement is correct?

Select the correct option

- ○ A Threaded Binary Tree is a binary tree in which every node that does not have a left child has a THREAD (in actual sense, a link) to its INORDER successor.
- ○ A Threaded Binary Tree is a binary tree in which every node that does not have a right child has a THREAD (in actual sense, a link) to its PREOREDR successor.
- ◉ A Threaded Binary Tree is a binary tree in which every node that does not have a right child has a THREAD (in actual sense, a link) to its INORDER successor.
- ○ A Threaded Binary Tree is a binary tree in which every node that does not have a right child has a THREAD (in actual sense, a link) to its POSTORDER successor.

Click to Save Answer & Move to Nex

CS301:Quiz No. 1 Quiz

Question # 10 of 10 (Start time: 02:02:02 AM, 29 January 2021)

In threaded binary tree, the NULL pointers are replaced by the

Select the correct option

- preorder successor or predecessor
- inorder successor or predecessor
- postorder successor or predecessor
- NULL pointers are not replaced

Click to Save

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Question # 1 of 10 (Start time: 01:00:22 AM, 29 January 2021)

If there are 23 external nodes in a binary tree then what will be the no. of internal nodes in this binary tree?

Select the correct option

- 21
- 22
- 23
- 24

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Question # 2 of 10 (Start time: 01:00:46 AM, 29 January 2021)

A complete binary tree of height 3 has between _____ nodes.

Select the correct option

- ○ 8 to 14
- ◉ 8 to 15
- ○ 8 to 16
- ○ 8 to 17

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Question # 3 of 10 (Start time: 01:01:05 AM, 29 January 2021)

We implement the heap by _____ .

Select the correct option

- Threaded Tree
- AVL tree
- Complete binary tree
- Expression tree

CS301:Quiz No. 1

Question # 4 of 10 (Start time: 01:01:29 AM, 29 January 2021)

Which of the following statement concerning heaps is NOT true?

Select the correct option

- Traversing a heap in order provides access to the data in numeric or alphabetical order.
- Removing the item at the top provides immediate access to the key value with highest (or lowest) priority.
- Inserting an item is always done at the end of the array, but requires maintaining the heap property.
- A heap may be stored in an array.

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Question # 5 of 10 (Start time: 01:01:51 AM, 29 January 2021)

Consider a max heap, represented by the following array:
40,30,20,10,15,16,17,8,4

After inserting a node with value 35.Which of the following is the updated max heap?

Select the correct option

- ○ 40,30,20,10,15,16,17,8,4,35
- ○ 40,30,20,10,35,16,17,8,4,15
- ◉ 40,35,20,10,30,16,17,8,4,15
- ○ 40,35,20,10,15,16,17,8,4,30

Click

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Question # 6 of 10 (Start time: 01:02:13 AM, 29 January 2021)

An expression tree will always be a/an,

Select the correct option

- Strictly binary tree
- Binary search tree
- Heap
- AVL tree

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Qu

Question # 7 of 10 (Start time: 01:02:32 AM, 29 January 2021)

When a complete binary tree, represented by an array then for any array element at position i, the right child is at position _____ .

Select the correct option

- 2i-1
- 2i
- 2i+1
- floor(i/2)

CS301:Quiz No. 1

Question # 8 of 10 (Start time: 01:02:54 AM, 29 January 2021)

In a threaded binary tree which nodes have NULL child pointers,

Select the correct option

- All leaf nodes
- Nodes other then leaf nodes
- Root Node
- None of the nodes

CS301:Quiz No. 1

Question # 9 of 10 (Start time: 01:03:14 AM, 29 January 2021)

A complete binary tree is a tree that is _____ filled, with the possible exception of the bottom level.

Select the correct option

- partially
- completely
- incompletely
- partly

CS301:Quiz No. 1

Question # 10 of 10 (Start time: 01:03:32 AM, 29 January 2021)

Consider a min heap, represented by the following array:
3,4,6,7,5

After calling the function deleteMin().Which of the following is the updated min heap?

Select the correct option

- 4,6,7,5
- 6,7,5,4
- 4,5,6,7
- 4,6,5,7,

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Question # 1 of 10 (Start time: 12:10:15 AM, 29 January 2021)

A complete binary tree of height 3 has between _____ nodes.

Select the correct option

- 8 to 14
- 8 to 15
- 8 to 16
- 8 to 17

CS301:Quiz No. 1

Question # 2 of 10 (Start time: 12:10:39 AM, 29 January 2021)

In a threaded binary tree which nodes have NULL child pointers,

Select the correct option

- ○ All leaf nodes
- ○ Nodes other then leaf nodes
- ○ Root Node
- ● None of the nodes

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Question # 3 of 10 (Start time: 12:11:07 AM, 29 January 2021)

If both pointers of the node in a binary tree are NULL then it will be a/an

Select the correct option

- ○ Inner node
- ◉ Leaf node
- ○ Root node
- ○ None of the given options

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Quiz Start Ti

Question # 4 of 10 (Start time: 12:11:28 AM, 29 January 2021)

Which of the following statement is not correct about Binary Trees, where binary tree traversals are carried out repeatedly?

Select the correct option

- ○ The overhead of stack operations during recursive calls can be costly.
- ○ If we use non-recursive but stack driven traversal procedure then it would be costly again.
- ○ It is useful to modify the tree data structure which represents the binary tree to speed up the inorder traversal process by making it stack free.
- ◉ It is very cumbersome to modify the tree data structure as most of pointer fields are not NULL.

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Question # 5 of 10 (Start time: 12:11:47 AM, 29 January 2021)

Consider a min heap, represented by the following array:
10,30,20,60,40,50,80,70

After inserting a node with value 31.Which of the following is the updated min heap?

Select the correct option

- 10,30,20,31,40,50,80,70,60
- 10,30,20,70,40,50,80,60,31
- 10,30,20,31,40,50,80,60,70
- 31,10,30,20,70,40,50,80,60

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Question # 6 of 10 (Start time: 12:12:07 AM, 29 January 2021)

There are _____cases in the process of deletion of a node in AVL Tree,

Select the correct option

- 2
- 3
- 4
- 5

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Question # 7 of 10 (Start time: 12:12:29 AM, 29 January 2021)

If an expression tree is correct then its root should have,

Select the correct option

- an operator
- (
-)
- an operand

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Question # 8 of 10 (Start time: 12:12:48 AM, 29 January 2021)

The worst case of building a heap of N keys is _____ .

Select the correct option

- N
- N^2
- NlogN
- 2^N

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Question # 9 of 10 (Start time: 12:13:09 AM, 29 January 2021)

Consider a min heap, represented by the following array:
11,22,33,44,55

After inserting a node with value 66.Which of the following is the updated min heap?

Select the correct option

- 11,22,33,44,55,66
- 11,22,33,44,66,55
- 11,22,33,66,44,55
- 11,22,66,33,44,55

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Quiz Star

Question # 10 of 10 (Start time: 12:13:28 AM, 29 January 2021)

If there are N external nodes in a binary tree then what will be the no. of internal nodes in this binary tree?

Select the correct option

- N-1
- N
- N+1
- N+2

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CS301 - Data Structures

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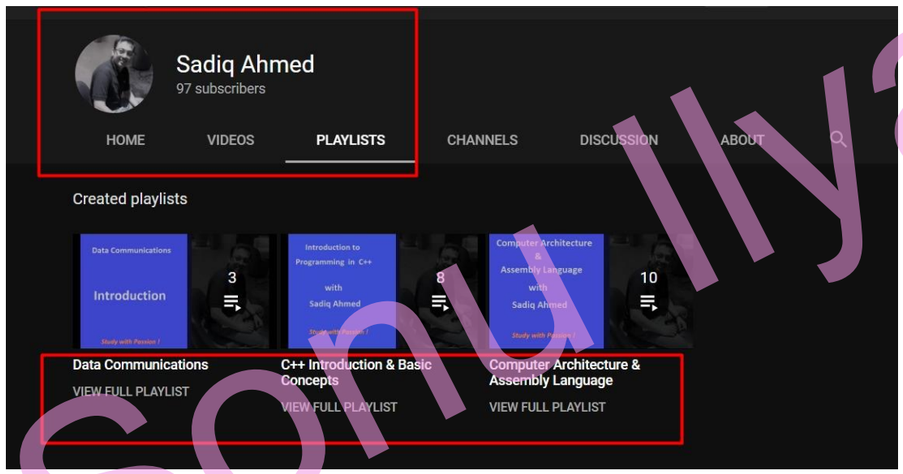

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2) DD (Design Document)
3) Test phase
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4) Final Deliverable
a) Final coding
b) Final presentation
c) Final report
d) Pre final viva (Coding Viva)
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First See Our Result
Than Join Us!