Question No : 1 of 26 Marks: 1 (Budgeted Time 1 Min)

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

Answer (Please select your correct option)

- One
- Two
- Three
- Four

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 2 of 26 Marks: 1 (Budgeted Time 1 Min)

Which one of the following statements is correct?

Answer (Please select your correct option)

- [x] Array size is fixed once it is created.
- [ ] Link List size is fixed once it is created.
- [ ] Binary Search Tree size is fixed once it is created
- [ ] AVL Tree size is fixed once it is created

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 3 of 26 Marks: 1 (Budgeted Time 1 Min)

Linked list always contains elements that can be described as ,

Answer (Please select your correct option)

- Redundant
- Recursive
- Self-referential. ✓
- Bidirectional.

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 4 of 26 Marks: 1 (Budgeted Time 1 Min)

One difference between a queue and a stack is:

Answer (Please select your correct option)

- Queues require dynamic memory, but stacks do not.
- Stacks require dynamic memory, but queues do not.
- Queues use two ends of the structure; stacks use only one. ✓
- Stacks use two ends of the structure, queues use only one.

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 5 of 26 Marks: 1 (Budgeted Time 1 Min)

Stack and Queue can be implemented using _____,

Answer (Please select your correct option)

- Singly Link List
- Binary Tree
- Binary Search Tree
- AVL Tree

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 6 of 26 Marks: 1 (Budgeted Time 1 Min)

New items are added at the _____of the stack.

Answer (Please select your correct option)

- Bottom
- Middle
- Top ✓
- Center

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 7 of 26 Marks: 1 (Budgeted Time 1 Min)

_____ is the stack characteristic but _____was implemented because of the size limitation of the array.

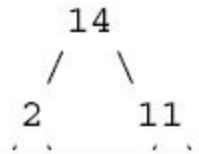
Answer (Please select your correct option)

- isFull(),isEmpty()
- pop(), push()
- isEmpty() , isFull() ✓
- push(),pop()

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 8 of 26 Marks: 1 (Budgeted Time 1 Min)

Consider the following tree.



Answer (Please select your correct option)

- 2
- 3
- 4
- 5

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 9 of 26 Marks: 1 (Budgeted Time 1 Min)

The difference between a "Binary Tree (BT)" and a "Binary Search Tree(BST)" is that ,

Answer (Please select your correct option)

- A BST has two children per node whereas a BT can have none, one, or two children per node
- In BST, nodes are inserted based on the values they contain ✓
- In BT, nodes are inserted based on the values they contain
- There is no difference

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 10 of 26 Marks: 1 (Budgeted Time 1 Min)

Which of the following operations returns "most recently entered value" from the stack ?

Answer (Please select your correct option)

- Push
- Recent
- Top ✓
- First

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 11 of 26 Marks: 1 (Budgeted Time 1 Min)

Which of the following is correct about AVL Tree?

Answer (Please select your correct option)

- It is identical to BST except height of the left and right subtrees can differ by at least 1.
- It is identical to BST except height of the left and right subtrees must differ by at least 1.
- It is not identical to BST, its totally different kind of tree.
- It is identical to BST except height of the left and right subtrees can differ by at most 1. ✓

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 12 of 26 Marks: 1 (Budgeted Time 1 Min)

What will be postfix expression of the following infix expression?
Infix Expression : a+b*c-d

Answer (Please select your correct option)

- ab+c*d-
- abc*+d- ✓
- abc+*d-
- abcd+*-

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 13 of 26 Marks: 1 (Budgeted Time 1 Min)

In the call by ..... methodology, a copy of the object is passed to the called function.

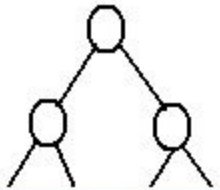
Answer (Please select your correct option)

- Reference
- Value ✓
- Reference & Value
- Copy of the object can not be passed

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 14 of 26 Marks: 1 (Budgeted Time 1 Min)

Consider the following tree, how many levels does it has?



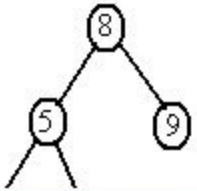
Answer (Please select your correct option)

- One
- Two
- Three
- Seven

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 15 of 26 Marks: 1 (Budgeted Time 1 Min)

Consider the following tree, which statement is correct about this tree.



Answer (Please select your correct option)

- 3 and 5 are on the same level
- 7 is the parent of 3
- 9 is the root of this tree
- 5 is on the second level

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 16 of 26 Marks: 1 (Budgeted Time 1 Min)

Recursive call of a function use..... data structure.

Answer (Please select your correct option)

- Linked List
- Queue
- Stack ✓
- Table

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 17 of 26 Marks: 1 (Budgeted Time 1 Min)

In the statement **int& a= b;**

Answer (Please select your correct option)

- a and b pointing to two different memory location
- a and b are two different names of the same memory location
- a and b are two different variable names
- b hold the address of variable a ✓

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 18 of 26 Marks: 1 (Budgeted Time 1 Min)

The variables which are destroyed automatically when a function's execution ends are:

Answer (Please select your correct option)

- Global variables
- Local variables defined inside function body
- Variables (objects) defined inside function body dynamically
- Variables (objects) defined inside function body statically

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 19 of 26 Marks: 1 (Budgeted Time 1 Min)

The worst case of searching in binary search tree (BST) is:

Answer (Please select your correct option)

- When the data inserted in BST is sorted
- When the height of left sub-tree is greater than right sub-tree
- When the height of right sub-tree is greater than left sub-tree
- When the tree is balanced

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 20 of 26 Marks: 1 (Budgeted Time 1 Min)

In simple implementation of stack, isFull() method is used due to .....

Answer (Please select your correct option)

- Limitation of array ✓
- Strength of array
- Linked list connectivity
- Complexity of linked list

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 21 of 26 Marks: 2 (Budgeted Time 4 Min)

In which of the traversal methods, recursion can not be applied?

Answer (Please click here to Add Answer)

by using an explicit stack.
We cannot avoid stack. The stack will be used to store the tree nodes in the appropriate order.

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 22 of 26 Marks: 2 (Budgeted Time 4 Min)

How can we calculate the height of tree ?

Answer (Please click here to Add Answer)

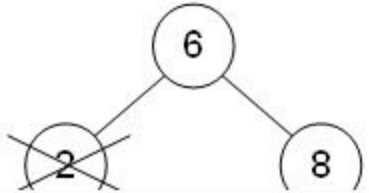
100% Normal Arial 12 B I U

It is the longest path from the node to a leaf. So height is the number of edges of the path

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 23 of 26 Marks: 3 (Budgeted Time 6 Min)

What will be the resultant tree after deleting the node 2 from the tree given below.

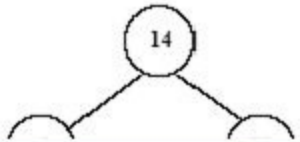


Answer (Please click here to Add Answer)

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 24 of 26 Marks: 3 (Budgeted Time 6 Min)

Consider the following AVL tree. Insert a new node with key of **12**. No need to show all steps, just draw the final AVL tree .



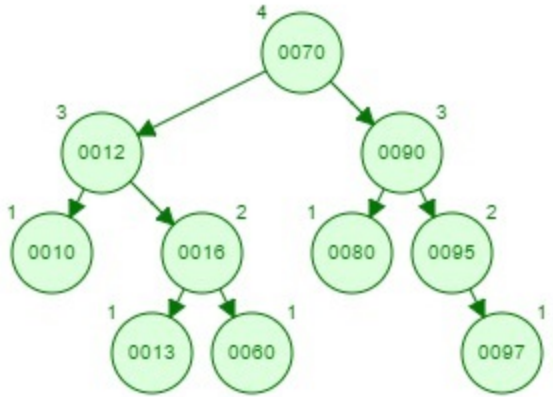
Answer (Please click here to Add Answer)

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 25 of 26 Marks: 5 (Budgeted Time 10 Min)

Show the result of inserting the values **10, 80, 12, 70, 90, 60, 13, 16, 95, 97** into an empty AVL Tree. You have to show only the complete AVL tree, steps are not required.

Answer (Please



https://genrica.com https://youtube.com/c/VirtualUniversityPakistan

Question No : 26 of 26 Marks: 5 (Budgeted Time 10 Min)

Explain the priority queue with the help of real world examples?

Answer (Please click here to Add Answer)

the queue is a FIFO (First in first out) structure. In daily life, you have also seen that it is not true that a person, who comes first, leaves first from the queue. Let's take the example of traffic. Traffic is stopped at the signal. The vehicles are in a queue. When the signal turns green, vehicles starts moving. The vehicles which are at the front of the queue will cross the crossing first. Suppose an ambulance comes from behind. Here ambulance should be given priority. It will bypass the queue and cross the intersection. Sometimes, we have queues that are not FIFO i.e. the person who comes first may not leave first. We can develop such queues in which the condition for leaving the queue is not to enter first. There may be some priority. Here we will also see the events of future like the customer is coming at what time and leaving at what time. We will arrange all these events and insert them in a priority queue. We will develop the queue in such a way that we will get the event which is going to happen first of all in the future. This data structure is known as priority queue. In a sense, FIFO is a special case of priority queue in which priority is given to the time of arrival. That means the person who comes first has the higher priority while the one who comes later, has the low priority. You will see the priority queue being used at many places especially in the operating systems. In operating systems, we have queue of different processes. If some process comes with higher priority will be processed first

https://genrica.com https://youtube.com/c/VirtualUniversityPakistan