# DATA STRUCTURES CS301 MCQS WITH ANSWER 2024

A queue where the de-queue operation depends not on FIFO is called a priority queue

* False
* **True (Page 101)**

The data of the problem is 2GB and the hard disk is of 1GB capacity, to solve this problem we should

* Use better data structures
* **Increase the hard disk space (Page 5)**
* Use the better algorithm
* Use as much data as we can store on the hard disk

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

* False
* **True (Page 202)**

The tree data structure is a

* Linear data structure
* **Non-linear data structure (Page 112)**
* Graphical data structure
* Data structures like queue

When should you use a const reference parameter?

* Whenever the parameter has a huge size.
* **Whenever the parameter has a huge size, the function changes the parameter within its body, and you do NOT want these changes to alter the actual argument.**
* Whenever the parameter has a huge size, the function changes the parameter within its body, and you DO want these changes to alter the actual argument.
* Whenever the parameter has a huge size, the function does not change the parameter within its body.

Which of the three-member functions can alter the PRIVATE member variables of the foo object that activates the function?

* Only x can alter the private member variables of the object that activates the function.
* Only y can alter the private member variables of the object that activates the function.
* Only z can alter the private member variables of the object that activates the function.
* **Two of the functions can alter the private member variables of the object that activates the function.**

What is the maximum depth of recursive calls a function may make?

* 1
* 2
* n (where n is the argument)
* **There is no fixed maximum**

Suppose n is the number of nodes in a complete Binary Tree then the maximum steps required for a search operation are,

* **Log2 (n+1) -1 (Page 139)**
* Log2 (n+1)
* Log2 (n) – 1
* Log2 (n)

In the linked list implementation of the stack class, where does the push member function place the new entry on the linked list?

* **At the head (Page 53)**
* At the tail
* After all other entries that are greater than the new entry.
* After all other entries that are smaller than the new entry.

Suppose we have a circular array implementation of the queue class, with ten items in the queue stored at data[2] through data[11]. The CAPACITY is 42, i.e., the array has been declared to be of size 42. Where does the push member function place the new entry in the array?

* data[1]
* data[2]
* data[11]
* **data[12]**

The expression AB+C\* is called?

* Prefix expression
* **Postfix expression (Page 70)**
* Infix expression
* None of these

is a binary tree where every node has a value, every node’s left subtree contains only values less than or equal to the node’s value, and every node’s right subtree contains only values that are greater than or equal.

* Strictly Binary Tree
* **Binary Search tree**
* AVL tree
* All of these

We access elements in AVL Tree in,

* Linear way only
* **Non-linear way only**
* Both linear and nonlinear ways
* None of the given options.

AVL Tree is,

* **Non-Linear data structure**
* Linear data structure
* Hybrid data structure (Mixture of Linear and Non-Linear)
* None of the given options.