DATA STRUCTURE INTERVIEW QUESTIONS...

1]. **What are operations performed on D.S.?**

➤ **i) Insertion :-** To add a new element in Data structure.

ii) Deletion :- To remove a data element from Data structure.

iii). Searching :- To search a specific data element in Data structure.

iv). Traversal :- To process all elements present in Data structure.

v). Merging :- To combine two similar Data structure to form a new one.

vi). Sorting :- To arrange the all data elements of Data structure in specific order.

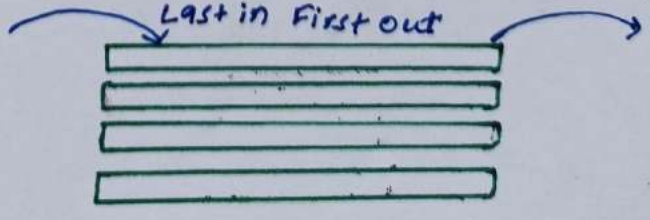
2]. **List out where the d.s. is used?**

➤ Data structure is used to handle the data.

i). Numerical analysis.
ii). Database management.
iii). Statistical analysis.
iv). Artificial Intelligence (A.I.)
v). Operating System (O.S).

3]. **What is LIFO?**

➤ • LIFO stands for Last In First Out.
• LIFO describes how to access, store and retrieve the data.
• The last added data in database is First out from that database.

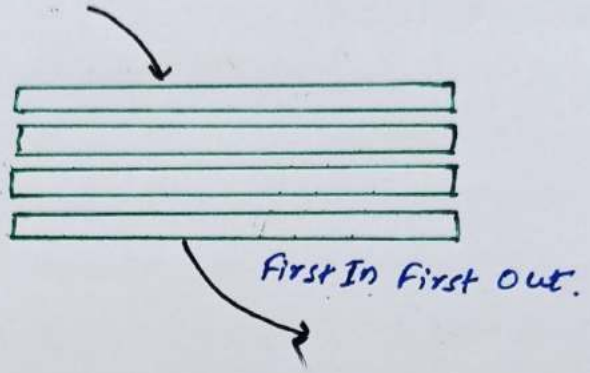


LIFO

4]. **What is FIFO?**

- FIFO is stands for "First In, First Out".
- The FIFO describes how to store, access, insert data into queue.
- The first added data in database is Out first from database.

Diagram :-



5). **How dynamic memory helps in managing data?**

- Process of allocating memory at runtime is called dynamic memory allocation.
- Dynamic memory allocation can combine saperatly allocated structured that expand & contract as need.
- It is also allows us to store & remove data block of orbitrary size.

6]. **What are advantages of Linked list?**

- We can increase and decrease linked list at runtime.
- We can allocate deallocate memory at run-time.
- Access time is very fast, it can accessed at certain time without memory overhead.
- Memory is well utilized in linked list.
- It has flexibility to rearrange the element easily.
- Linked list does not waste memory space.

7]. **Disadvantages of Linked list.**

➤
- In singly linked list, reverse traversal is not possible.
- It cannot access elements randomly.
- Memory is wasted because the linked list requires extra memory to store.
- Searching an element is costly & requires time complexity.
- Random access is not possible because dynamic memory allocation.
- Due to more pointer in linked list it will complex and requires more memory.

8]. **How merge sort is useful?**

➤
- Merge sort is a process where the data is divided and stored to reach end goal.
- Adjacent elements are sort & merge to make huge elements.
- The sorted element are combine to make bigger list.
- This process is continous until make single sorted list.

9]. **Minimum no. of nodes have binary tree?**

➤
- Binary tree have minimum of zero nodes.
- But binary tree also have 1 or 2 nodes.

10]. **Minimum no. of queue require to implement priority queue?**

➤
- Minimum two queue require to implement priority queue.
- Out of that, One is for sorting priority and other queue is for the storage of data.

11]. **Is possible to implement stack using queue?**

➤
- Yes, we can implement stack using two queue.
- Data structure acts like stack it have push and pop method.
- In push( ) method to add data on top.
- In pop( ) method to remove the top data.

12]. **Where is LRU cache used?**

➤
- LRU stands for **Least Recenty Used cache.**
- LRU cache organise elements in order of use.
- When we enable LRU cache then it find which element is not useful for long time.

13]. **Application of stack in D.S.?**

➤ a). Function calling and return.
b). Expression evaluation.
c). Backtracking.
d). Memory Management in Data Structure.

14]. **What is storage structure?**

➤ Its data structure represents in the computer memory.

15]. **What operation Perform on stack?**

➤ i). **Push** :- To add new item in the stack.
If stack is complete, then it will overflow.

ii). **Pop** :- POP( ) used to remove item from stack.
If stack is empty, then it called underflow.

16]. **What is Operation of queue?**

➤ i). **Dequeue** :- Dequeue is used to remore item from Data structure.

ii). **Enqueue** :- Enqueue is used to insert item from Data structure.

iii). **isempty** :- It confirms that whether queue is empty.

iv). **isFull** :- It confirms that whether queue is full.

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TELEGRAM - NOTES GALLERY.

17]. **What is AVL tree?**

➤ • AVL stands for Adelson, Velskii, Landi.

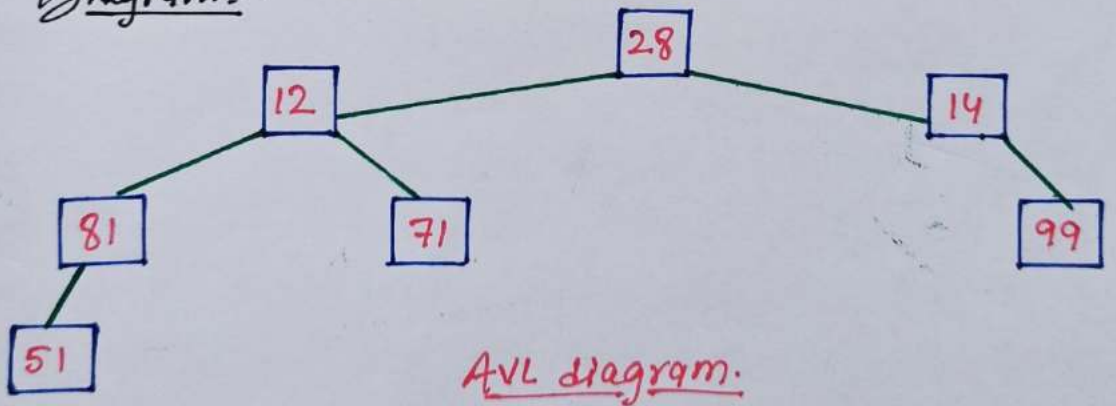
• AVL tree can defined as height balanced binary search tree.

• In AVL each node is associated with balance factor.

• The tree is balanced when balance factor of each node is between -1 to 1.

• If it is unbalanced then we need to balance it.

Diagram:-



AVL diagram.