

DATA STRUCTURE

INTERVIEW QUESTIONS

PART-2

1. Which data structure is used to perform recursion?

⇒ Stack data structure is used in recursion due to its first out nature. Operating system maintains the stack in order to save the iteration variables at each function call.

krishna Agrawal (Linked In)

2. List the area of applications where stack data structures can be used?

⇒ * Expression Evaluation

* Backtracking

* Memory management

* Function calling

* Function Return

3. What are the operations that can be performed on a stack?

⇒ * PUSH Operations

* POP Operations

* PEEK Operations

4. Write the stack overflow condition.

⇒ Overflow occurs when $\text{top} = \text{Maxsize} - 1$

5. List the data structures which are used in RDBMS, Network Data Model and Hierarchical Data Model.

⇒ * RDBMS uses Array data structure

* Network data model uses graph

* Hierarchical data model uses Tree.

krishna Agrawal (linked)

6. What is a postfix expression?

⇒ An expression in which operators follow the operands is known as postfix expression.

The main benefit of this form is that there is no need to group sub-expression in parenthesis or to consider operator precedence.

The expression "a+b" will be represented as "ab+" in postfix.

7. Write the postfix form of the expression: $(A+B) * (C-D)$

⇒ $AB+CD-*$

8. Which notation are used in Evaluation of Arithmetic Expressions using prefix and postfix forms?

⇒ Polish and Reverse Polish notations.

Krishna Agrawal (linked 9n)

9. What is an array? @coders-noted

⇒ Arrays are defined as the collection of similar types of data items stored at contiguous memory locations. It is the simplest data structure in which each data element can be randomly accessed by using its index number.

10. How to reference all the elements in a one-dimensional array?

⇒ It can be done by using an indexed loop such that the counter runs from 0 to the array size minus one. In this manner, you can reference all the elements in sequence by using the loop counter as the array subscript.

11. What is a multidimensional array?

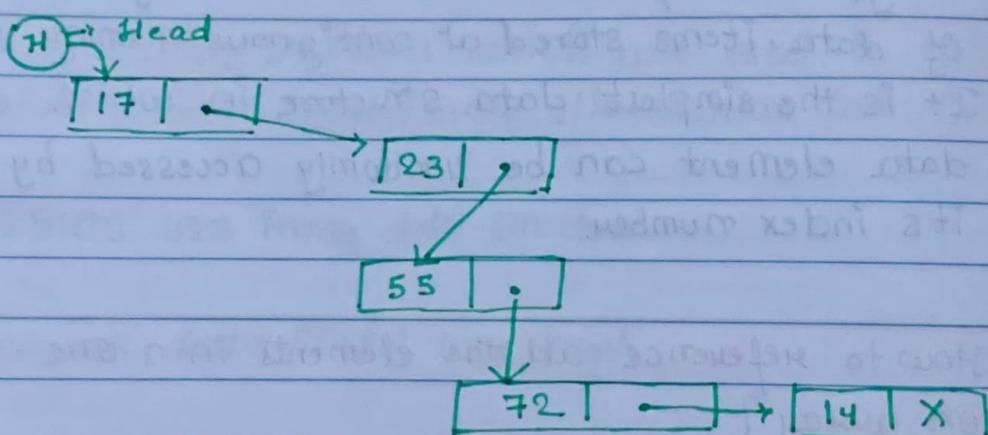
⇒ The multidimensional array can be defined as the array of arrays in which, the data is stored in

tabular form consists of rows and columns. 2D arrays are created to implement a relational database look alike data structure. It provides ease of holding the bulk of data at once which can be passed to any number of functions whenever required.

Krishna Agrawal (In)

12. Define Linked List Data Structure. @ coders-notes

⇒ Linked List is the collection of randomly stored data objects called nodes. In Linked List, each node is linked to its adjacent node through a pointer. A node contains two fields, Data Field and Link Field.



| Node | |
|------|----------------------|
| Data | Pointer to Next Node |
| 17 | 23 |
| 23 | 55 |
| 55 | 72 |
| 72 | X |

Applications :-

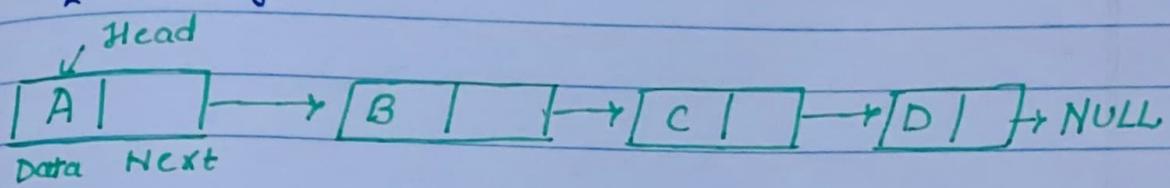
- * Stack, Queue, binary Trees and graphs are implemented using linked lists.
- * Dynamic management for Operating System Memory.

Krishna Agrawal {Linked 9n}

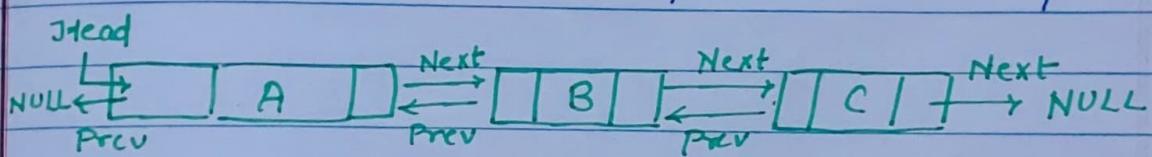
13

Different type of Linked List data structures?

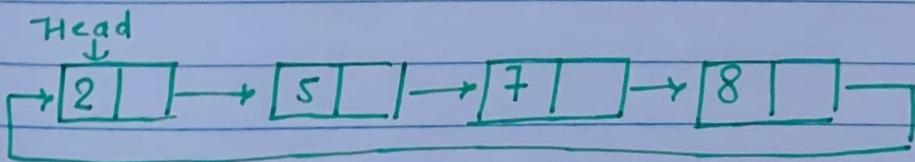
* Singly Linked List :- A singly linked list is a data structure that is used to store multiple items. The items are linked together using the key. The key is used to identify the item and is usually a unique identifier.



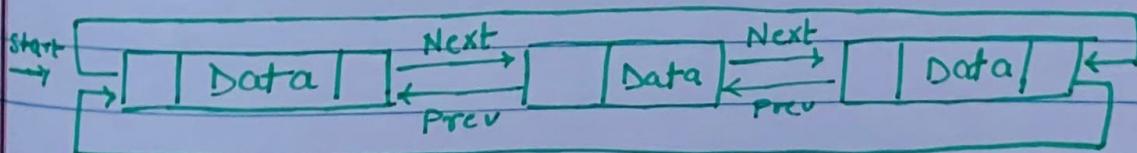
* Doubly Linked List : A doubly linked list is a data structure that allows for two-way data access such that each node in the list points to the next node in the list and also points back to its previous.



* Circular Linked List :- unidirectional linked list where each node points to its next node and last node points back to first node.



* Doubly circular Linked List :-



FOLLOW :- **@coders_notes**

For more such notes & Content

Join Our Telegram

Channel

Channel link :- [@ \(Bio\)](https://t.me/coders_notes)

For Such Handwritten

Notes And Interview

Preparation Material