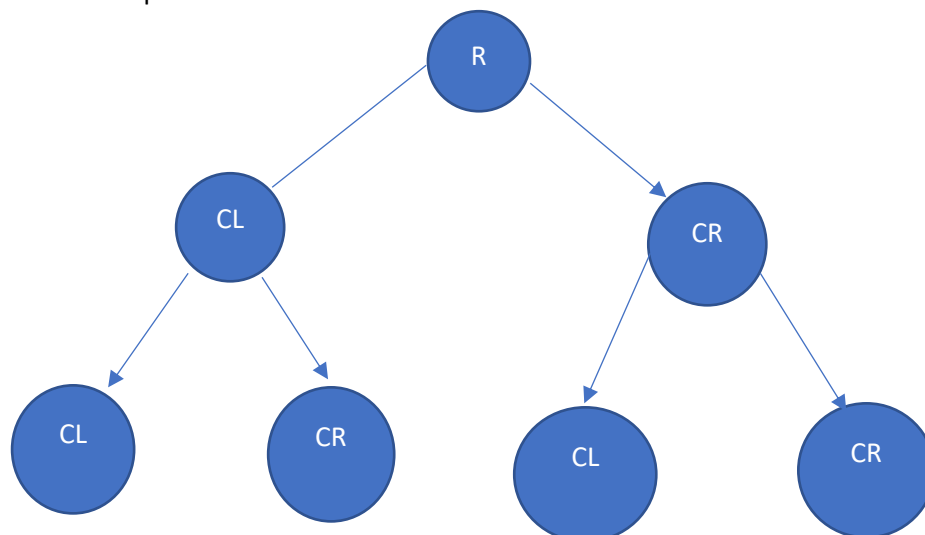1. What are Data Structures?
    a. Methods and techniques to handle and store data in Organized manner
    b. Build dependencies between data entities
2. Difference between file structure and data structures?
    a. Policies
3. What is linked list?
    a. Very vital aspect of data structures
    b. Mostly used
    c. Node
    d. Type of linked list
4. Where Data structures used?
    a. Speak few points about the concept where it is used <Search and Update here>
5. What are the types of searching used in Data structures?
    a. Linear
    b. Binary
6. How Binary Search Work?
    a. Only work on sorted data
    b. Find the middle of number (Even = Average / Odd = 1 singular middle element)
    c. Order of arrangement and the search value
7. How individual elements accessed in an Array?
    a. Indexing concept
    b. Multidimensional arrays will have more than one dimension to work with
    c. Example Matrix
8. What is Queue in Data Structures?
    a. Widely used data structures in the Indiustry (Real World)
    b. Order is everything in this data structure (First Come First Serve)
    c. Elements are added one after the another and are processed on the front end
    d. Elements
        i. Top Element – Data Entry Point
        ii. Front Element – Data Exit Point
    e. *code to Denote an Array and implement queue*
9. What is a Binary Tree?
    a. Root Node / Primary Node which is split in left hand side and right hand side.
    b. Extended LinkedList
    c. Example below

10. What is meaning of stack?
    a. Widely used data structured
    b. Provides users with the ability to work with data at one point only
    c. Example: working of a stack of cards
    d. Last In First Out (LIFO)
11. What is the working of LIFO
    a. Tell user how data is accessed and worked on
    b. Governing principle of how a stack work
12. What are Multidimensional Arrays?
    a. Specific set of rows and columns
    b. More than one index variable as opposed to single index in array
    c. Used in case where data cannot be represented or stored using only one dimension
    d. Example (Location sharing) Longitude and Latitude
13. Are linked list linear or non-linear data structures?
    a. Best of both worlds
    b. Based on usage if it is related to storing, then it can be considered as non-linear
    c. If a person is considering it based on retrieval strategies, then it can be considered as linear
14. What is Binary Search Tree?
    a. Two primary nodes from root node
    b. Values of the nodes in the **left** subtree are less in number than the value of the root node, and the values of the nodes on the **right** of the root node are correspondingly higher than the root
        i. Left Subtrees < Root < Right
    c. Also, individually both of these left and right subtrees are their own binary search trees at all points of time.
15. What is the meaning of FIFO?
    a. How queues work in real world
    b. Think of queue
    c. A real-life example on FIFO
16. What is the difference between void and null in data structures?
    a. Void is data type identifier in data structures
    b. Null is considered to be a value with no physical presence
    c. When void is used, it indicates that there is no size while initializing the data structure
17. What is Dynamic memory management?
    a. Way and methodology Storage units are allocated based on the requirements continuously
    b. Individual data structures can be either stored separately or combined to form entities called composites
18. What are push and pop operations?
    a. Push when you add element into a data structure
    b. Pop when you remove data from data structures
19. How is variable stored in memory when using data structures?
    a. Variable is stored based on the amount of memory that is needed
    b. First required quantity of the memory is assigned

    c. Later it is expanded based on the data structure being used

    d. Concept of dynamic allocation comes handy here ensuring high efficiency thus supporting supply of storage units based on the requirements in real time.

20. What is merge sort?

    a. Method of sorting which is based on the divide and conquer technique

    b. Data entities adjacent to each other are first merged and sorted in every iteration to create sorted list

    c. These smaller sorted lists are combines at the end to form the completely sorted list

21. Why should heap be used over stack?

    a. More efficient to work with when compared to stack

    b. Use dynamic memory allocation

22. What is the meaning of Data Abstraction?

    a. One of widely used tools and techniques in data structure

    b. Goal here is to break down complex entities into smaller problems and solve these by using the concept of data structures

    c. Provides user with the advantage of being focused on the operations and not worried about how the data is stored or represented in the memory

23. What is the meaning of post fix expression in Data Structures?

    a. Used in a scenario where every operator is preceded by its operands

    b. Eliminated the need for parentheses or subexpression when it comes to the concept of operator precedence

    c. Value added to lexical analysis

24. What is the working of selection sort?

    a. Smallest entity is first found and set its index to ZERO, thereby permanently sorting this in the first step.

25. What are signed numbers in Data Structures?

    a. Units that have a data bit at the beginning of the number that denotes if the number is positive or negative

    b. If the signed bit is **1** then it indicates the presence of negative number whereas, if the signed bit is **O** then it indicated the presence of positive number

26. What are the minimum nodes binary tress can have?

    a. Zero nodes or minimum of 1 or 2 as well

27. What data structures make use of pointers?

    a. Binary Trees

    b. Linked List

    c. Queues

    d. Stacks

28. What is the use of dynamic data structures?

    a. Provides users with flexibility in terms of the provision of data storage and manipulation techniques

    b. Used to change during the operation of the algorithm or the execution of the program.

    c. Very similar concept of dynamic memory allocation

29. What is a priority queue?

    a. Each of the elements in the queue have a priority attached to it.

    b. Elements with higher priority will be processed before the elements with lower priority

      c. A minimum of 2 queues are required in this case one of the data and other to store the priority

30. Pointers allocate memory for data storage? T/F
      a. False
      b. Addressing the memory
      c. Memory is later accessed ..
31. What is the meaning of Deque (Double Ended Queues)?
      a. Double ended queue
      b. Elements can be added or removed from any one of the two ends
      c. It can be used as a regular queue and as a stack
      d. Performs better than both linked list and stacks in general
32. Differentiate between Non-Linear and Linear data structures?
      a. In Linear data structures data is stored next to each other in linear or ordered
            i. Array, LinkedList, stacks and queues
      b. In Non-Linear data structures data elements can be separated by other entities in memory
            i. Trees and Graphs
33. What is the meaning of AVL Tree?
      a.