Data Structures

Algorithms Linked List Data Structure

Interview Preparation Apr. 2022

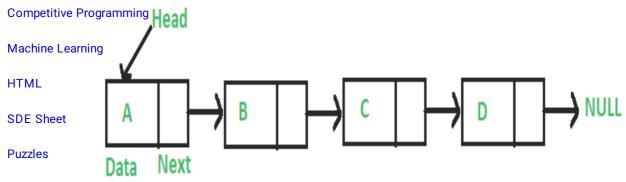
Topic-wise Practice Data Structure and Algorithms Course

C+Practice Problems on Linked List

Recent Articles on Linked List

Java

A linked list is a linear data structure, in which the elements are not stored at contiguous memory locations. The Python elements in a linked list are linked using pointers as shown in the below image:



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In simple words, a linked list consists of nodes where each node contains a data field and a reference(link) to the next node in the list.

Topics:

- · Singly Linked List
- · Circular Linked List
- Doubly Linked List

- Misc
- Quick Links

Singly Linked List:

- 1. Introduction to Linked List
- 2. Linked List vs Array
- 3. Linked List Insertion
- 4. Linked List Deletion (Deleting a given key)
- 5. Linked List Deletion (Deleting a key at given position)
- 6. Write a function to delete a Linked List
- 7. Find Length of a Linked List (Iterative and Recursive)
- 8. Search an element in a Linked List (Iterative and Recursive)
- 9. Write a function to get Nth node in a Linked List
- 10. Nth node from the end of a Linked List
- 11. Print the middle of a given linked list
- 12. Write a function that counts the number of times a given int occurs in a Linked List
- 13. Detect loop in a linked list
- 14. Find length of loop in linked list
- 15. Function to check if a singly linked list is palindrome
- 16. Remove duplicates from a sorted linked list

- 17. Remove duplicates from an unsorted linked list
- 18. Swap nodes in a linked list without swapping data
- 19. Pairwise swap elements of a given linked list
- 20. Move last element to front of a given Linked List
- 21. Intersection of two Sorted Linked Lists
- 22. Intersection point of two Linked Lists.
- 23. QuickSort on Singly Linked List
- 24. Segregate even and odd nodes in a Linked List
- 25. Reverse a linked list

More >>

Circular Linked List:

- 1. Circular Linked List Introduction and Applications,
- 2. Circular Linked List Traversal
- 3. Split a Circular Linked List into two halves
- 4. Sorted insert for circular linked list
- 5. Check if a linked list is Circular Linked List
- 6. Convert a Binary Tree to a Circular Doubly Link List
- 7. Circular Singly Linked List | Insertion
- 8. Deletion from a Circular Linked List
- 9. Circular Queue | Set 2 (Circular Linked List Implementation)
- 10. Count nodes in Circular linked list
- 11. Josephus Circle using circular linked list
- 12. Convert singly linked list into circular linked list
- 13. Circular Linked List | Set 1 (Introduction and Applications)
- 14. Circular Linked List | Set 2 (Traversal)
- 15. Implementation of Deque using circular array
- 16. Exchange first and last nodes in Circular Linked List

More >>

Doubly Linked List:

- 1. Doubly Linked List Introduction and Insertion
- 2. Delete a node in a Doubly Linked List
- 3. Reverse a Doubly Linked List
- 4. The Great Tree-List Recursion Problem.
- 5. Copy a linked list with next and arbit pointer
- 6. QuickSort on Doubly Linked List
- 7. Swap Kth node from beginning with Kth node from end in a Linked List
- 8. Merge Sort for Doubly Linked List
- 9. Create a Doubly Linked List from a Ternary Tree
- 10. Find pairs with given sum in doubly linked list
- 11. Insert value in sorted way in a sorted doubly linked list
- 12. Delete a Doubly Linked List node at a given position
- 13. Count triplets in a sorted doubly linked list whose sum is equal to a given value x
- 14. Remove duplicates from a sorted doubly linked list
- 15. Delete all occurrences of a given key in a doubly linked list
- 16. Remove duplicates from an unsorted doubly linked list
- 17. Sort the biotonic doubly linked list
- 18. Sort a k sorted doubly linked list
- 19. Convert a given Binary Tree to Doubly Linked List | Set

- 20. Program to find size of Doubly Linked List
- 21. Sorted insert in a doubly linked list with head and tail pointers
- 22. Large number arithmetic using doubly linked list
- 23. Rotate Doubly linked list by N nodes
- 24. Priority Queue using doubly linked list
- 25. Reverse a doubly linked list in groups of given size
- 26. Doubly Circular Linked List | Set 1 (Introduction and Insertion)
- 27. Doubly Circular Linked List | Set 2 (Deletion)

More >>

Misc:

- 1. Skip List | Set 1 (Introduction)
- 2. Skip List | Set 2 (Insertion)
- 3. Skip List | Set 3 (Searching and Deletion)
- 4. Reverse a stack without using extra space in O(n)
- 5. An interesting method to print reverse of a linked list
- 6. Linked List representation of Disjoint Set Data Structures
- 7. Sublist Search (Search a linked list in another list)
- 8. How to insert elements in C++ STL List?
- 9. Unrolled Linked List | Set 1 (Introduction)
- 10. A Programmer's approach of looking at Array vs. Linked List
- 11. How to write C functions that modify head pointer of a Linked List?
- 12. Given a linked list which is sorted, how will you insert in sorted way
- 13. Can we reverse a linked list in less than O(n)?
- 14. Practice questions for Linked List and Recursion
- 15. Construct a Maximum Sum Linked List out of two Sorted Linked Lists having some Common nodes
- 16. Given only a pointer to a node to be deleted in a singly linked list, how do you delete it?
- 17. Why Quick Sort preferred for Arrays and Merge Sort for Linked Lists?
- 18. Squareroot(n)-th node in a Linked List
- 19. Find the fractional (or n/k th) node in linked list
- 20. Find modular node in a linked list
- 21. Construct a linked list from 2D matrix
- 22. Find smallest and largest elements in singly linked list
- 23. Arrange consonants and vowels nodes in a linked list
- 24. Partitioning a linked list around a given value and If we don't care about making the elements of the list "stable"
- 25. Modify contents of Linked List

Quick Links:

- · 'Practice Problems' on Linked List
- · 'Videos' on Linked List
- · 'Quizzes' on Linked List

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