

# **Project Name: SinglyLinkedList and StackUsingLinkedList implementation**

## **Description:**

The SinglyLinkedList project is a Java implementation of a singly linked list data structure. It provides functionality for inserting nodes at specific positions, deleting nodes, searching for nodes, and displaying the list.

## **Features:**

- Inserting a node at any given position in the linked list.
- Deleting a node at any given position in the linked list.
- Deleting a node after a given node in the linked list.
- Searching for a node with a specific value in the linked list.
- Displaying the entire linked list.

## **Classes:**

1. SinglyLinkedList: Represents the singly linked list data structure and provides methods for various operations on the list.
2. Node: Represents a node in the linked list structure, containing data and a reference to the next node.

## **Usage:**

1. Create an instance of the SinglyLinkedList class.
2. Use methods provided by the SinglyLinkedList class to perform operations on the linked list, such as insertion, deletion, searching, and display.

## **Description for StackUsingLinkedList:**

The StackUsingLinkedList project implements a stack data structure using a singly linked list. It provides functionality for pushing elements onto the stack, popping elements from the stack, peeking at the top element, and displaying the stack.

## **Features:**

- Pushing an element onto the stack.
- Popping an element from the stack.
- Peeking at the top element of the stack.
- Displaying the entire stack.

## **Classes:**

1. Stack: Represents the stack data structure implemented using a singly linked list.
2. SinglyLinkedList.Node: Represents a node in the linked list structure.

## **Usage:**

1. Create an instance of the Stack class.
2. Use methods provided by the Stack class to perform stack operations, such as push, pop, peek, and display.

## **Dependencies:**

- Java SE Development Kit (JDK) for running Java applications.

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