Sukkur IBA University
Kandhkot Campus
Lab Task - VI
Fall 2022

Course: Data Structures   **Class**: BS (CS) – III
Date: October 05 , 2022   **Time**: 2 hour
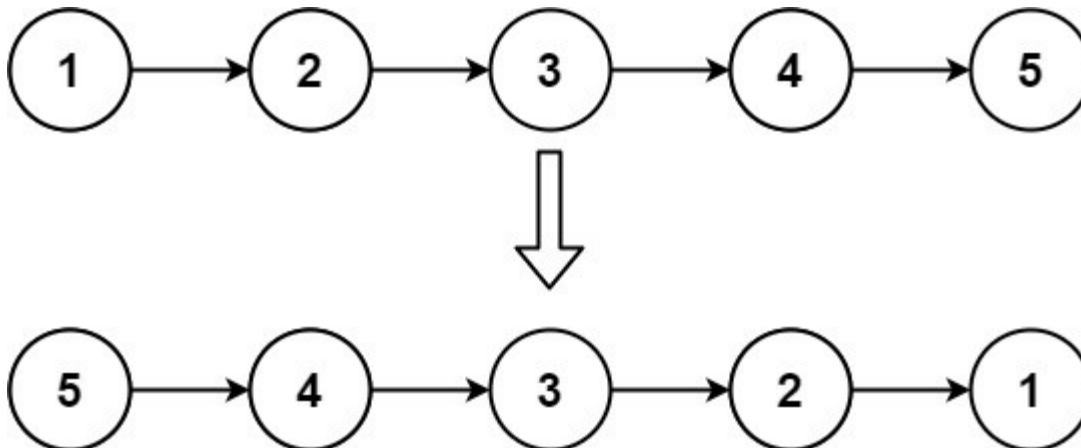**Instructor**: Syed Muzamil Hussain Shah

General Instructions:

In this lab you are going to add some more functionalities in your Linkedlist and Stack code.
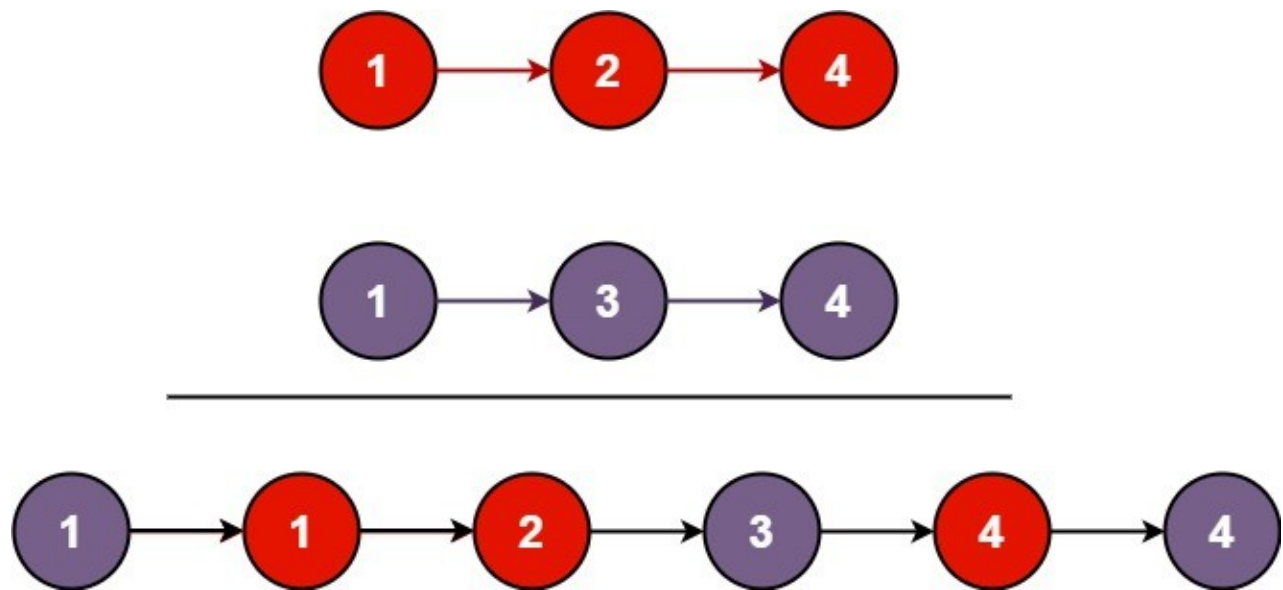
Question 01 Practice Problems

For this task you must have Singly, Doubly Linked list code:

1. **Reverse the LinkedList:** Given the head of a singly linked list, reverse the list, and return *the reversed list*.

2. **Marge two sorted linkedlists:** *For this task you should take two integer linkedlists*:

You are given the heads of two sorted linked lists `list1` and `list2`. Merge the two lists in a one **sorted** list. The list should be made by splicing together the nodes of the first two lists. Return *the head of the merged linked list*. See below pic.

3. Using stack write a program that tells whether a string is palindrome or not.

A string is called a palindrome string if the reverse of that string is the same as the original string. For example, **pop, radar, level**, etc.

Similarly, a number that is equal to the reverse of that same number is called a palindrome number. For example, **121**,**3553**, **12321**, etc.