

ITDEV-154 Data Structures and Algorithms
Assignment #3

- 1)
 - a) Describe a linked list.
 - b) What are the advantages of using this type of data structure?
 - c) What are some disadvantages?
 - d) What is the difference between a single linked list and a doubly linked list?
 - e) What is a circularly linked list?
- 2) Using Visual Studio, write a C# application (console, web, or windows forms) that implements a simple linked list. The program should include the implementation of Linked Lists and demonstrations of their use.

Include operations for and demonstrations of:

- A) Creating a new Single Linked List
- B) Displaying the list
- C) Adding / Removing an element at the beginning of the list.
- D) Adding / Removing an element at the end of the list.
- E) Adding / Removing an element at the n^{th} position.
- F) Reverse the List
- G) Bubble Sort by exchanging data
- H) Bubble Sort by exchanging links
- I) Insert Cycle
- J) Detect Cycle
- K) Remove Cycle

Produce a walkthrough video of your working project. Show me the implementation (code) and a successful demonstration of it operating.