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Abstract

A brief report on some operations on linked list and their solutions

Report on Linkedlist operations

Advanced Implementation Assignment – SP1

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# Question 1

Given two linked lists implementing sorted sets, write functions for union, intersection, and set difference of the sets.

# **Compiling & Running Instructions**

Compiling - **javac listmerge.java**

Running - **java listmerge**

**1 2 3 4 5**

**6 7 8 9 10**

**(Or)**

**java listmerge input\_lmerge.txt**

Output - **output\_lmerge.txt**

# Question 4

Implement a recursive algorithm without recursion, by using a stack to simulate recursion. You may work on any recursive algorithm that has multiple recursive calls such as Merge Sort, Binary tree traversals, Quick sort, or, Linear-time median.

# **Compiling & Running Instructions**

Compiling – **javac SimulatRecursion.java**

Running - **java SimulateRecursion <size>**

**java SimulateRecursion 1000000**

# Question 5

Extend the "unzip" algorithm discussed in class to "multiUnzip" on the SinglyLinkedList class

# **Compiling & Running Instructions**

Compiling - **javac Zipper.java**

Running -  **java Zipper <positions> <size>**

**java Zipper 3 1000000**

# Question 6

Write recursive and non-recursive functions for the following tasks:

(i) Reverse the order of elements of the SinglyLinkedList class

(ii) Print the elements of the SinglyLinkedList class, in reverse order.

# **Compiling & Running Instructions**

Compiling - **javac ReverseList.java**

Running –  **java ReverseList <options> <size>**

**java ReverseList 1 1000000**

In running instructions – Options are as follows:

1. Reverse List Recursively

2. Reverse List Non-Recursively

3. Print List in Reverse Order Recursively

4. Print List in Reverse Order Non-Recursively