Data Structure and Algorithm Lab
Lab Sheet-8

Lab schedule: October 11, 2021
Submission deadline: October 17, 2021, 11.59 PM

Q1. Write a program to implement the Merge sort algorithm with the space optimization for auxiliary space O(n/2).

Q2.Write a program for Linked-list implementation of a complete binary tree. The program must have the following functionalities.

a) Insert(): inserts a new ITEM to the complete binary tree. The items are of integer type.
b) Height(): returns height of a node recursively. Height (N) = MAX(Height(L), Height(R)) + 1. Here, L and R respectively represent the Left child and Right child of node N. Height of a leaf node is 0.
c) Preorder(): returns the preorder traversal sequence of the binary tree. Use recursive implementation.
d) Postorder(): returns the postorder traversal sequence of the binary tree. Use recursive implementation.