Computer Systems Lab

Assignment-6

Date of Assignment: 22-Oct-2020 **Date of Submission: 28-Oct-2020**

1. Given n (1 <= n <= 30) arrays of integers A1, A2, …, An of lengths l1, l2, …, ln respectively (1 <= li <= 1000), where each array is already sorted in non-decreasing order. Design an efficient C program using **ternary minimum heap** (heap having three children) that merges all the arrays into a single sorted array A of length l = l1+ l2 + … + ln in non-decreasing order. Time complexity = O(l log n)

   Input:

   n = 4

   Lengths = 2 4 2 5

   A1[] = 18 77

   A2[] = 1 5 20 20

   A3[] = 5 18

   A4[] = 1 3 5 6 99

   Output:

   A[] = 1 1 3 5 5 6 18 18 20 20 77 99

2. Given a preorder and inorder traversal, write a C/C++ program to create a binary tree. Write a C function that will print the length of the longest path in the tree.

Submission Instruction:

File Name: A6_Your Roll Number.c/cpp (A6_20CS06002.c or A6_20CS06002.cpp)
Mail to: joy@iitbbs.ac.in
Subject Line: A6_20CS06002