Assignment 7

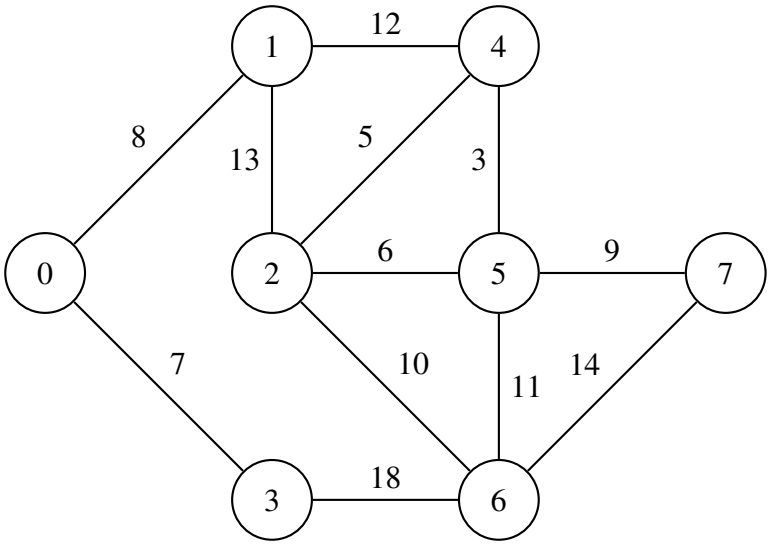
Computer Systems Lab

Assignment Date: October 29, 2020 **Date of Submission**: November 2, 2020

1. Write a C/C++ program for Kruskal's algorithm.

   Input:

   V = 8 E = 12
   0 1 8
   1 2 13
   1 4 12
   2 4 5
   0 3 7
   3 6 18
   2 5 6
   2 6 10
   5 7 9
   5 6 11
   6 7 14
   4 5 3

   Output:

   54

2. Consider a highway of M miles. Your task is to place toll plazas on the highway. The possible sites for toll plazas are given by number $x_0 < x_1 < \ldots < x_{n-1}$, specifying positions in miles measured from start end of the road. If a toll plaza is placed at position x_i, a revenue of $r_i > 0$ can be collected. There is a restriction that two toll plazas can be placed $> t$ miles away. Write a C program that maximizes the total revenue collection.

   Input: M = 15 x[] = {6, 9, 12, 14} r[] = {5, 6, 3, 7} t = 2

   Output: 18

Submission Instruction:

File Name: A7_RollNo.c/cpp
Email to: *joy@iitbbs.ac.in* with **subject line**: A7_RollNo