Assignment 6

Problem 1: A CMST has to be generated for a configuration with the following parameters. The cost matrix C is:

$$C = \begin{bmatrix} \infty & 6 & 3 & 4 & 5 \\ 6 & \infty & 3 & 5 & 7 \\ 3 & 3 & \infty & 3 & 5 \\ 4 & 5 & 3 & \infty & 3 \\ 5 & 7 & 5 & 3 & \infty \end{bmatrix}$$

$N = 4, \beta = 10$, and $\rho = [5, 4, 3, 5]$. Use Esau-Williams algorithm.

This is only a paper & pencil exercise. Coding is not necessary.

To get full credit, show all your computations.

Solution: v_0 = vertex used to denote the central-server. v_i = vertex used to denote the ith workstation, $1 \leq i \leq 4$.

The links in the CMST are $\{(v_0, v_2), (v_2, v_1), (v_0, v_3), (v_3, v_4)\}$. The total cost of this tree is 13.

Problem 2: Read the paper: *Difficulties in Simulating the Internet*, by S. Floyd and V. Paxson. Write a one or two page summary of this paper.