

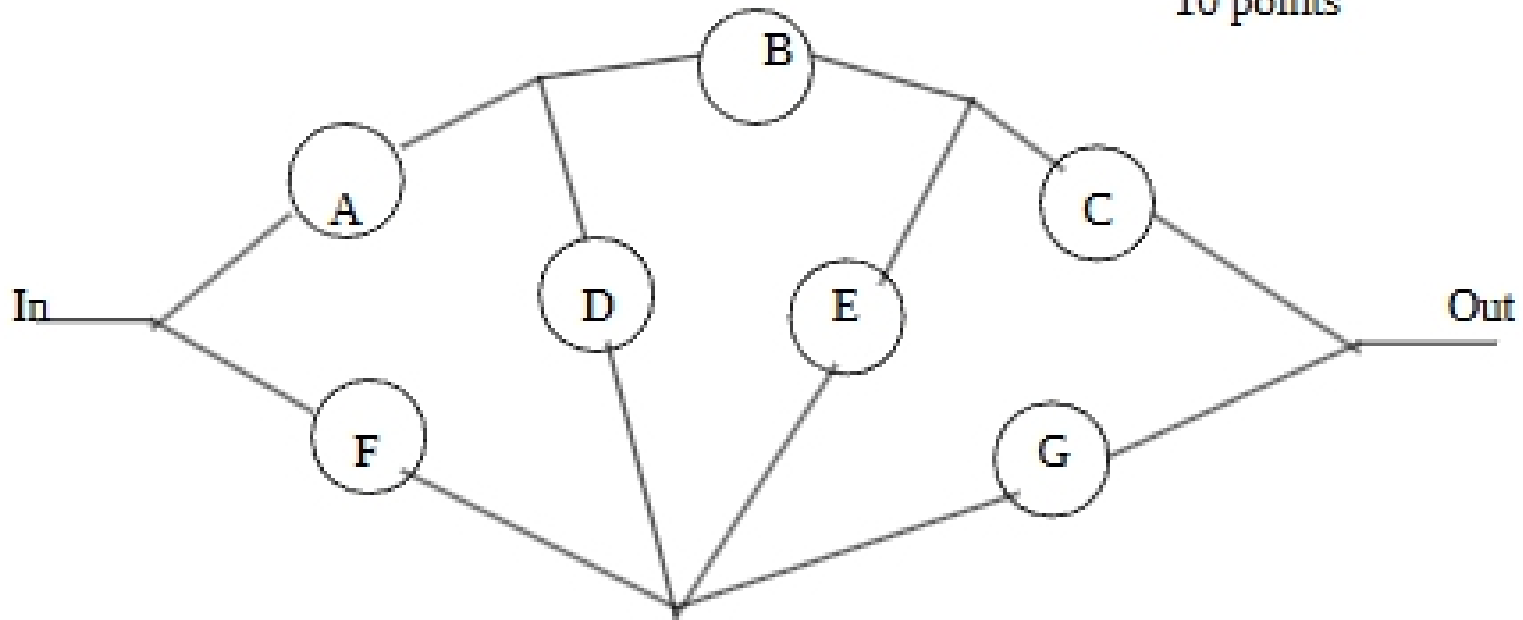
Distributed and Internet Systems

Total Points: 50

Assignment

- Find the Source-Terminal Reliability (STR) between the "in" and "out" terminals of the following DCS.

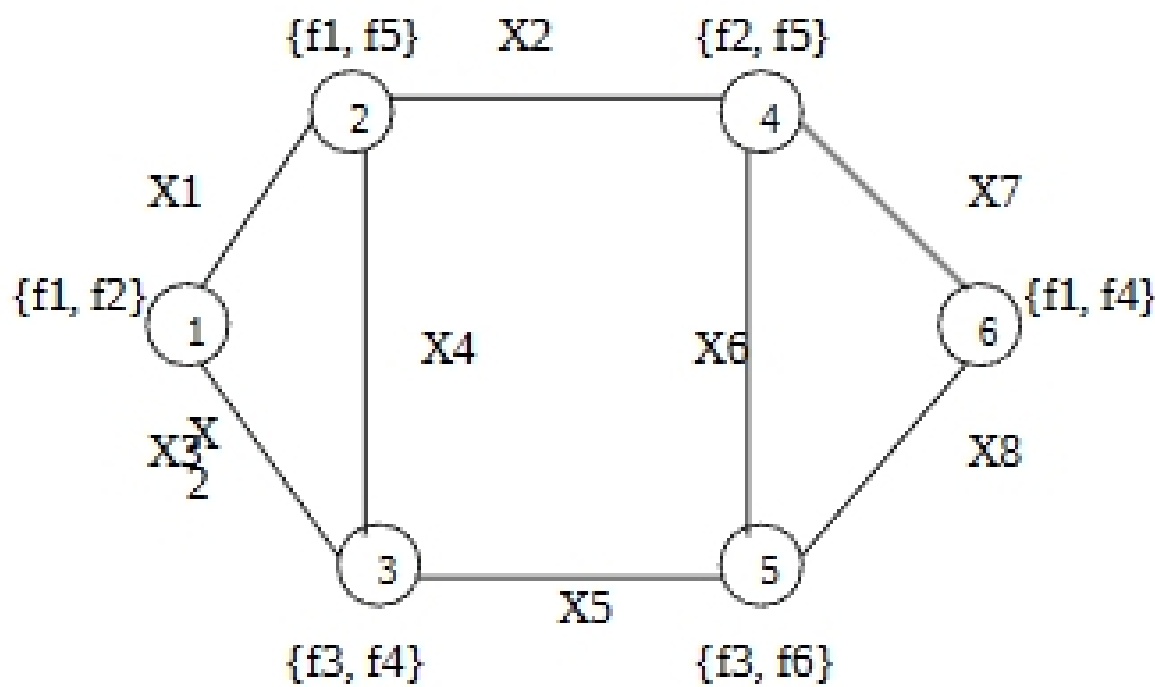
10 points



- For the following DCS generate all possible minimum file spanning trees (MFST) when program P2 is executed at node N3. Program P2 needs files f2, f4, f6 to execute.

Make all the MFSTs disjoint using the method discussed in class to compute the Distributed Program Reliability (DPR).

15 points



3. If load on the 10 processors is given in the following table and the allowed deviation on load "d" is 0.09 then for each processor evaluate whether it is underloaded or overloaded.

10 points

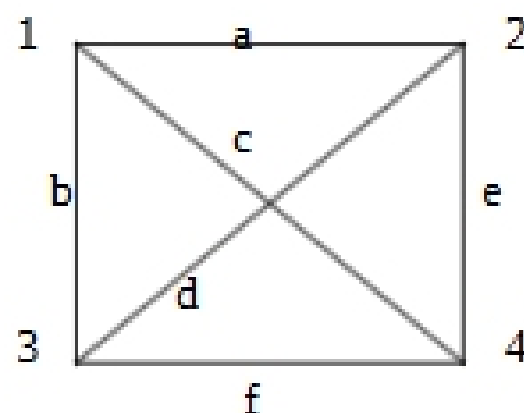
Processor	Load
P1	40
P2	70
P3	80
P4	60
P5	55
P6	79
P7	47
P8	68
P9	89
P10	42

4. Design a computer network using the algorithm discussed in the paper by K. K. Aggrawal.

15 points

Given

The possible links are shown in the following figure:



Link cost and reliability are given below:

Link	a	b	c	d	e	f
Cost	5	4	3	2	6	5
Reliability	0.8	0.7	0.9	0.8	0.8	0.8

Cost of the network should not exceed 15.

Note: Show each step of your computation for full credit.