CS 5800 Distributed OS - Spring 2017 - Homework 2

Josh Herman
Dalton Cole
Neil Blood

February 22, 2017

Problem 1 Problem 1

Problem 2 Problem 2

The program is guaranteed to finish in n steps. This is because, in the worst case, x[n-1] = t. This is true because t is guaranteed to be in the set. In other words:
Set s = {}
the max size of s will be n. For every x[i] $\neq$ t, append x[i] to s. This will represent all of the elements before t in the list. The max size of the set is n, which is the maximum number of steps to terminate the program.

Problem 3 Problem 3

Safety: When two or more users edit the same document at the same time, their edits are never lost.

Liveliness: Document will auto-save eventually, saving the data.

Problem 4 Problem 4

State	Action	c[0]	c[1]	c[2]	c[3]
A		0	0	2	0
B	P_0 moves	2	0	2	0
C	P_0 moves	0	0	2	0

As can be seen from the above table, states A and C are identical, thus program can cycle with this given input, thus not guaranteeing termination.

Problem 5 Problem 5

Problem 6 Problem 6

2	0	1	0	2
1	2	2	2	1
0	0	0	0	0