Operating Systems–1: CS3510
Autumn 2022
Theory Assignment 1: Chapters 1, 3
Submission Date: ~~25th November 2022, 9:00 pm~~
26th November 2022, 9:00 pm

1. Modification of problem 1.22 on page EX-2 of the book (page 84 of the pdf):
   (a) Describe a mechanism for enforcing memory protection in order to prevent a program from modifying the memory associated with other programs.
   Answer: The processor could keep track of what locations are associated with each process and limit access to locations that are outside of a program's extent. Information regarding the extent of a program's memory could be maintained by using base and limits registers and by performing a check for every memory access.

   Question: Do you see any other mechanism for enforcing the above requirement?

   (b) While memory protection is necessary, there are several examples where programs require memory to be shared between them. Please give **two** such examples.

2. Please study the PCB (Process Control Block) structure of a Linux system from any reliable Internet source. Describe any 10 fields in the PCB of a process in the latest Linux Operating System. Please cite your source as well like in question 2.