Operating Systems–1: CS3510
Autumn 2022
Theory Assignment 1: Chapters 1, 3
Submission Date: 25th 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.

   (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.