CS457: Advanced OS
Assignment 1 (7 marks) – v1.0

Objective

- Learn and practice Deadlock detection algorithms
- Get hands-on experience on configuring and using of LockDep Kernel Module

Setup

1. Assignment deadline is 18 May
2. The assignment should be delivered in a group of 3.

Task 1 – (4 marks)

1. Use your lab development environment to configure and build linux kernel with lockdep module enabled to validate lock correctness.

You could refer to the deadlock Lecture in your coursework from here.

Task 2 - (3 marks)

1. Generate an example application or applications that you intentionally use locks incorrectly inside it to generate a deadlock.

The application must be written in C.

You must use dmsg to decode and identify the detected problems of your system.

Deliverables

You need to deliver the following as an archive with the group ids that contains the following:

- You need to deliver the kernel configuration file to enable the lockdep module.
- Source code of your example application or applications.
- Screenshot from your system dmsg logs for such warnings/errors.