

## CSC7721: Project 2

**Department of Computer Science and Engineering, CUHK**  
**Due: Date on the final exam**

This is the second part of the project. The aim of this project is to understand the impact of low-rate TCP attack on TCP flows.

You need the implementation you made on project 1, in particular, on the TCP, for this project. .

First, you need to simulate a router that has a finite buffer (e.g.,  $B = 15000$  bytes or you can slowly increase the buffer size to see its impact). The router has the processing capacity of  $C = 0.5$  Mbps.

Then you have to consider five normal TCP flows going through this router.

Lastly, you need to generate a low-rate TCP attack. For simplicity, let us just consider a simple short burst. You have to determine:

- The magnitude of the burst.
- The period of the attack.
- The duration of the attack.

You need to measure the instantaneous and average throughput of these five TCP flows, before and during the attack. You also need to comment whether the throughput of these TCP flows will go to zero or not, and provide justification.