Wayne State University

CSC 4421 – Winter 2025
Computer Operating Systems Labs
Lab 7 – Counting Semaphores

Points possible: 100

Task:

Write the program that simulate students presentation order. Let's assume that the class has 20 students, and the queue size of the students presenting is 5. You should use *counting semaphores* to implement your solution.

The template is provided. Please, modify it using counting semaphores and mutexes.

Example of running presented below:

$. ./out
Presentation is started
1. Student was called to the Presentation
 2. Student was called to the Presentation
3. Student was called to the Presentation
1. Student is done. It was removed from the Queue
4. Student was called to the Presentation
5. Student was called to the Presentation
6. Student was called to the Presentation
2. Student is done. It was removed from the Queue
7. Student was called to the Presentation
3. Student is done. It was removed from the Queue
8. Student was called to the Presentation
4. Student is done. It was removed from the Queue
9. Student was called to the Presentation
5. Student is done. It was removed from the Queue
10. Student was called to the Presentation
6. Student is done. It was removed from the Queue
11. Student was called to the Presentation
7. Student is done. It was removed from the Queue
12. Student was called to the Presentation
8. Student is done. It was removed from the Queue
13. Student was called to the Presentation

9. Student is done. It was removed from the Queue
14. Student was called to the Presentation
10. Student is done. It was removed from the Queue
15. Student was called to the Presentation
11. Student is done. It was removed from the Queue
17. Student was called to the Presentation
12. Student is done. It was removed from the Queue
16. Student was called to the Presentation
13. Student is done. It was removed from the Queue
18. Student was called to the Presentation
14. Student is done. It was removed from the Queue
19. Student was called to the Presentation
15. Student is done. It was removed from the Queue
20. Student was called to the Presentation
17. Student is done. It was removed from the Queue
16. Student is done. It was removed from the Queue
18. Student is done. It was removed from the Queue
19. Student is done. It was removed from the Queue
20. Student is done. It was removed from the Queue