

## Fork and Producer Consumer Problem

### Lab I

TA teaching instructions can be found at the end of this document.

The labs, for this course, are designed to be completed on your own at home or in the 3<sup>rd</sup> floor Trottier labs. These labs are not graded. You do not hand in these labs. If you prefer to work on a lab with your TA tutorial group, then check the schedule for your TA's tutorial session. You will find this schedule in our MyCourses page under Content/Course Information/TA Information. Since the university has limited lab space, your TA might ask you to bring your laptop and work in a classroom instead of a lab.

This lab is about programming with fork and the producer and consumer problem as seen from class.

Some labs will have a question zero. These questions will not be covered by the TA during the tutorial. It is extra content meant for you to do on your own.

#### QUESTION ZERO: Optional problem

If you like, review these online resources:

1. Review lecture slides: 41 to 46 from lecture week 9

#### QUESTION: Fork

Using the code from the lecture slides as inspiration, write a producer that uses a for-loop to iterate from 1 to 10. Write a consumer that prints to the screen each digit from the producer.

You can implement this by either using a text file or the shell memory.

It would be good to try it both ways if you have time.

The file technique is good to use when the parallel programs are not in the same shell. The shell memory technique is good to use when the parallel programs ARE in the same shell. In our case, since we are using `fork()`, the parallel programs are in the same shell, but don't let that stop you from trying to do this with a text file.

You have completed your lab.

## TA Teaching Instructions

Do this lab with the students in a lecture / lab format.