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CMPT330 Lab3 Report

Introduction

In this lab we looked at the producer consumer problem in buffers. We employed a scenario involving candy producers and boxers in an imaginary candy factory.

Question 1.

Running my program repeatedly with 4 producers and 1 consumer changes the output multiple times. Wonka will have diferent candy in different orders.

Question 2.

The ordering of the output is similar if there is a background process running on the machine.

Question 3.

With 4 producers and three consumers the output seems to vary more than before. The order in which the children place things in boxes seems to vary more. A multi threaded program will have a non-deterministic output with identical inputs because different programs will receive different output based on whatever cheduling method the OS is using.

Question 4.

Debugging non-deterministic code was a challenge because I can't expectcertain things to run when I need them to. Once I planned my program, the problems came with trying to use the mutex library. And once that was completed, the program was nearly complete besides some error checking and bugs.

Conclusion

Using mutexes provides a useful way to deal with multithreading in C. It is a very useful way to deal with race conditions.