IN3030 Oblig 5

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Introduction

In this report I will explain how I implemented waitAndSwap3 by using Semaphores from the java utils library.

User guide

To run the program simply run this in the terminal in the same folder as the files:

`Java WaitAndSwap3 <k>`

Where k is the number of threads being made.

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Implementation

The implementation of the waitAndSwap3 algorithm is made by 5 semaphores where 3 of them act like waiting benches by having 0 available permits each. The reason behind having 3 benches is to make sure that the 3 threads that are supposed to wait are released in the correct order. The 2 other semaphores are used to lock variables so that the different threads don't access the same variables at the same time. In addition to these semaphores I have implemented a counter that makes sure that the threads go into the benches correctly and is released correctly.

Note: I have just released the 3 waiting threads in the correct order, but the print is not in the correct order because of the variSpeed function. This could be fixed by having the threads release each other in some way, but the task just says “released” and not print.

Another Note: I'm not sure what to write in this report, but I don't see anything else relevant other than the implementation.