REPORT

NDVSYE003 PCP2 – Concurrency

The Task:

A medley simulation program has been provided for this assignment as well as a working demo of how it should perform, however the program provided has many concurrency issues and race conditions that must be corrected in order to fix the code so that it run as intended.

The main goal of this Assignment is to learn how to find and protect a parallel program from concurrency and thread safety issues.

Major Concurrency Errors Identified:

* SwimTeam.run() method - all swimmers in a single swim team are started at once. Should be waiting for eachother.
* GridBlock.moveTowards Method needs the getters for getting the coordinates of each swimmer to be synchronized to avoid moving into the same block as another swimmer.
* The Swimmer.dive() method should wait until all backstroke swimmers are at the starting block
* Consecutive swimmers in the same team should wait until the previous stroke exits the pool

Other issues:

* Start button in *medleySimulation* is not implemented to start simulation.