

COMP2050 - Week 1 Submission

Q1

A race condition is an issue that can arise when two threads are able to access the same data. When they try to access the data you can't be sure which thread will access the data first. This means programs need to account for the thread scheduling algorithm used by the CPU.

Q2

One architecture with this issue is a repository. If two different nodes pull the same data it would need a scheduling algorithm as the results might be different based on which node does it process first. If it is always pulling from a central repository scheduling would be needed to ensuring accurate data.

Q3

One example of a system is a high-frequency trading firm that is doing hundreds of financial computations. These firms would need to ensure they account for race conditions as they need to schedule their computations before they schedule buy orders and sell orders as if inaccurate computations are made the trade accuracy would be off result in lower profitability.