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CS 143A

Homework 6 Write-Up

**Part 1**

In the dining philosophers problem the four conditions for deadlock are held because…

At least one chopstick is non-shareable.

There is one philosopher holding one chopstick and waiting for another one.

No philosopher is willing to give up the chopstick they are currently holding.

Each philosopher is waiting on another philosopher in a circular pattern, making it so dependency never ends.

Deadlock could be avoided if…

At least one chopstick becomes shareable, making at least one philosopher able to eat.

If one philosopher doesn’t hold and wait and instead puts the chopstick he was holding down, then another philosopher can eat.

If a philosopher takes another philosopher’s chopstick then they can eat.

If one philosopher isn’t waiting in the circular pattern then the dependency can end.

**Part 2**

