

Homework

Part 2: Concurrency –

8) Semaphores, Common Problems

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1 Semaphores

Conduct the code homework from *OSTEP, Chapter 31*, found at [ost].

Note: For Question 1, try different initial values for the semaphore; does it work as expected?

2 Solving Deadlock

Conduct the code homework from *OSTEP, Chapter 32*, found at [ost].

Note: Verbose mode might influence how often deadlocks occur. Try running with and without to see a difference. Also, it might be necessary to set the number of loops (“-l”) to quite large numbers like 1’000’000 or so.

3 ★ Condition Variables Using Semaphores

If you like to deepen your knowledge regarding condition variables and semaphores, read [Bir] (also provided as part of the course material).

References

- [Bir] Andrew Birrell, *Implementing Condition Variables with Semaphores*, <https://www.microsoft.com/en-us/research/wp-content/uploads/2004/12/ImplementingCVs.pdf>.
- [ost] *GitHub.com*, *remzi-arpacidusseau/ostep-homework*, <https://github.com/remzi-arpacidusseau/ostep-homework>.