

Lock Guard Exercises

Exception Thrown in Critical Section

- Explain what happens if an exception is thrown in a critical section
- What approaches can programmers use to manage this situation?

Drawbacks of `std::mutex`

- Are there other situations where these approaches are useful?
- If so, give some examples

std::lock_guard

- Rewrite the unscramble program
 - Instead of locking and unlocking a mutex directly, use std::lock_guard
 - Add a sleep statement at the end of the loop
- Do you notice anything unusual?
 - Why might this be the case?

std::lock_guard

- Change your program
 - Throw an exception in the critical section
 - Add a try-catch block to handle the exception
- What happens when you run the program?
- Explain your results

std::lock_guard

- Suggest one feature that could usefully be added to std::lock_guard