

# Shared Mutex Exercises

# Shared Mutex

- Explain briefly what a shared mutex is

# shared\_mutex usage

- Write a program which has two task functions
  - A "writer" task which modifies shared data
  - A "reader" task which accesses shared data but does not modify it
- Use an `std::shared_mutex` to synchronize these tasks
  - The reader task should sleep for 100ms before unlocking the mutex
  - This is to simulate activity
- The program creates twenty reader threads, then two writer threads, then another twenty reader threads
- How long do you expect it will take the program to run?
- Explain the results

# Data Race Avoidance

- Explain how using a shared mutex avoids data races