

Futures and Promises Overview Solutions

std::future and std::promise

- Briefly describe the std::future and std::promise classes
 - These classes are used to transfer data between threads
 - Together, an std::future object and an std::promise object set up a "shared state" between threads
 - The shared state can transfer data from one thread to another
- What are the advantages of using these classes?
 - No need for shared data variables
 - The program is thread-safe without explicit locking

Producer-Consumer Model

- Briefly describe the producer-consumer model
 - A "producer" thread will generate a result
 - A "consumer" thread waits for the result
 - The producer thread generates the result
 - The producer thread stores the result in the shared state
 - The consumer thread reads the result from the shared state