

Shared Data Initialization Exercises

Shared Data

- Give a list of all the ways to create shared data in C++
- How are these shared data variables initialized?
- Does these initialization procedures have any implications for thread safety?

Static Local Variable Initialization Before C++11

- Before C++11, could static local variables be initialized in a thread-safe way?

Static Local Variable Initialization in C++11

- Has the initialization of static local variables changed in C++11?
- What happens if the variable is modified after initialization?

Classic Singleton Implementation

- What is meant by a Singleton class?
- Briefly describe the traditional implementation of a Singleton class
- Implement a traditional Singleton class
- Write a multi-threaded program to test it
- Is the traditional Singleton thread-safe?

C++11 Singleton Implementation

- Does C++11 give us a better way to implement the Singleton?
- Implement a Singleton class which uses these features
- Write a multi-threaded program to test your class