

Atomic Operations Solutions

Member Functions for Atomic Types

- All atomic types have the following member functions
- Describe each of these member functions
 - store()
 - Atomically replace the object's value with its argument
 - Equivalent to the assignment operator
 - load()
 - Atomically return the object's value
 - Equivalent to operator T()
 - exchange()
 - Atomically replace the object's value with its argument
 - Returns the previous value

Member Functions for Atomic Types

- Write a program which uses these member functions

std::atomic_flag

- Briefly describe the std::atomic_flag class
 - std::atomic_flag is an atomic boolean type
 - It has less overhead than std::atomic<bool>
 - It supports only three operations
 - clear() sets flag to false
 - test_and_set() sets flag to true and returns previous value
 - operator =()
 - It must be initialized to false
atomic_flag lock = ATOMIC_FLAG_INIT;