Multicore Computing

Project2

이상윤

2024

**(i) – a**

BlockingQueue is a Java interface that can implement various types of blocking queues. This interface can create a blocking queue that can be resized depending on the implementation, and internal implementations can be made into an array or a linked list depending on the implementation.

Of these, ArrayBlockingQueue is a queue that implements the BlockingQueue interface, which uses an internally fixed array of sizes to store elements and implement synchronization.

**(i) - b**

텍스트, 스크린샷, 소프트웨어, 멀티미디어 소프트웨어이(가) 표시된 사진

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**(ii) – a**

ReadWriteLock is an interface used to perform read and write operations simultaneously. ReentrantReadWriteLock is one of the implementations of the ReadWriteLock interface, a read-write lock that enables you to safely handle read and write operations simultaneously in a multi-threaded environment.

Advantage of ReentrantReadWriteLock is

1. Multiple threads can perform read operations at the same time.

2. While a write operation is being performed, no other thread can read or write operations.

3. The same thread can acquire multiple locks.

**(ii) - b**

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**(iii) – a**

AtomicInteger is a class for dealing with thread-safe integer variables in Java. It supports atomic operations and is used to handle possible problems when multiple threads approach at the same time to change variables.

**(iii) - b**

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**(iiii) – a**

A cyclicbarrier is a synchronization mechanism that provides a barrier for multiple threads to wait for execution at the same time. When all threads reach that barrier at the same time, the specified action is then performed.

**(iiii) - b**

텍스트, 스크린샷, 소프트웨어, 멀티미디어 소프트웨어이(가) 표시된 사진

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