

Mandatory Activity. Concurrent Programming. Lab 10.

This activity must be autonomously done by the student. **It must be done prior to the following laboratory class.** It will be used as part of the following laboratory.

Activity

Design and implement a generic `ConcurrentQueue` class that provides a thread safe queue. For this purpose, the last version of your `List` must be used. The class must provide the following members:

- `NumberOfElements`
- `IsEmpty`
- `Enqueue`
- `Dequeue`
- `Peek` returns an object from the beginning of the queue without removing it.

If required, members to the `List` can be added.

Test its correct behavior by using the testing tool of Visual Studio. Consider the special concurrent feature of the class in the test suite created.

Use the appropriate programming language features learned so far.