

# Homework, ISTA-421

## Chapter 24b, C# Step by Step

### Readings

Read chapter 24, pages 575 – 600 in the *C# Step by Step* book.

### Discussion Questions

Answer the discussion questions in writing for chapter 24.

1. What are the two scenarios in which you can use PLINQ to speed up operations? Why does using PLINQ in these scenarios speed up processing?
2. How does *AsParallel* qualify as an extension method? First, explain what an extension method is and how you define extension methods, and then explain why *AsParallel* qualifies as an extension method.
3. How do you cancel a PLINQ query before it finishes? Be specific with respect to the variables and methods used for the cancellation operation, and how the variables and methods are used.
4. Why is it important to synchronize concurrent access to a server? Give an example of a specific condition that will cause an error in your application if concurrent access is not synchronized.
5. What does the *lock* statement do?
6. This is not in the book. Define *mutex*, define *semaphore*, and explain the difference between them.
7. What does it mean to say that some collection classes are not thread safe? Explain how not being thread safe may lead one of these collection classes to produce a malfunction in the program.
8. Explain how thread safe collection classes are made thread safe.
9. Why are thread safe classes slower than non-thread safe classes? Be specific.