**Objectives**

Gain experience:

* Writing async methods
* Writing LINQ queries
* Validating user input

**Book Catalog Web App**

Part 1: Add validation in the form of data annotations on each of the properties in the Book data model (excluding ID). Decide which validation annotations are appropriate for each property.

Part 2: Add a search page to the app

Modify your Book Catalog web app to add the following features:

* Add a page named *Search*. Use only async methods for the HTTP request handlers on this page. The search results can be displayed in the same way as those on the Index page, but without the *create new*, *edit*, and *delete* links (but do include the *details* link)
* Add search features to search by title, author, publisher, and publication date range.
  + Use the await keyword for each search.
  + Write at least one search without a lambda expression.
  + Use a lambda expression in at least one search.
* Remove the search feature from the Index page.

Part 3: Update your web app on Azure.

**Submission to Moodle**

Beta Version

Upload the following to the Code Review Forum:

1. A zip file containing your web app’s Visual Studio solution folder.  
   Or, a link to a repository containing your web site solution source code. You can put the link on the same document with the report on your exercise from part 1.
2. A code review of your lab partner’s work. (You do this after your lab partner submits item 1 and you have reviewed it.)

Production Version

1. Item 1 as above but revised as needed.
2. Item 2 above.
3. The code review of your work (the one done by your lab partner) with the second column (“Production”) completed by you.