**CHAPTERS 11**

Create a list of textbooks using String[ ]. Create a list of ID’s (i) using a for loop, then output the ID and textbooks side-by-side. Sort textbook list.

* Introductory Chemical Engineering Thermodynamics
* Separation Process Principles
* Essentials of Chemical Reaction Engineering

**CHAPTER 12**

Create a list of textbooks, then create an application to add and remove textbooks from that array. Use ArrayList and then use HashMap to do these operations.

1. Create an array of the following data
   * ID Textbook Author
   * 1 Introductory Chemical Engineering Thermodynamics Elliott and Lira
   * 2 Essentials of Chemical Reaction Engineering Fogler
   * 3 Separation Process Principles Seader
2. Add a textbook (entered by user) to the array
   * 4 Mass Transfer Welty
3. Remove any textbook from the array

**CHAPTER 13**

Create an application based off the one made for chapters 11 – 12, that:

1. Counts the length of the textbooks
2. Counts the spaces in textbooks
3. Replaces the spaces in textbooks with dashed “-“
   * Introductory-Chemical-Engineering-Thermodynamics
4. Insert the ID (and space) at the beginning of the textbook name
   * 1. Introductory Chemical Engineering Thermodynamics
5. Pad all entries so strings are the same length (see console on pp. 433 - 434)

**CHAPTER 14**

Create an application that prompts user for the input of a date and time and then parse that information into an edited day/time format (MEDIUM). Then prompt the user how many years they want to pass. Add that time to the date they entered and display it in FULL format.

**CHAPTER 15**

Create a text file (using Java) called “textbook.txt”, check to make sure it doesn’t already exist first. Create a menu that has the following options:

1. view list
2. add textbook
3. exit

Add the following textbooks to the text file:

* Introductory Chemical Engineering Thermodynamics
* Separation Process Principles
* Essentials of Chemical Reaction Engineering

**CHAPTER 16**

Let’s take a break from textbooks…. Create a class that accepts an input of a time and date from the user. Then try to break it by entering invalid dates and times. Use exception handling to prevent the application from breaking/stopping and have it print out a message instead that says “Invalid date/time.”

**CHAPTER 21**

Make a database of textbook information. First create the table structure in MySQL, then do all the things in eclipse (just like TV show example).

* + ID Textbook Author
  + 1 Introductory Chemical Engineering Thermodynamics Elliott and Lira
  + 2 Essentials of Chemical Reaction Engineering Fogler
  + 3 Separation Process Principles Seader

You should have three packages (business, ui, and util):

* Business
  + Textbooks
    - instance variables
    - constructor
    - getters and setters
  + TextbooksDAO
    - copy from TV show example
  + TextbooksDB
    - search by author
* UI
  + TextbooksApp
    - command menu
* Util
  + Console
  + DBUtil
    - define connection parameters (url, username, password)
    - close connection
    - basically, copy the TV show example

Extra credit: add, update, and remove textbooks to the database.

* 4 Mass Transfer Welty