**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
   * Format: 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 on next page)

**CHAPTER 15**

Create a text file (using Java) called “textbook\_data.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