Exercise using a sorted set TreeMap (files found in the **TreeEx** project):

For this exercise you will store **Product** objects in a sorted Set. Products in the Set should be sorted by the product code. Sorting is done by first checking the country of origin, then the department code, and finally the manufacturer's code.

There are no command line arguments when running this program:

java TreeExample

For this exercise:

1. Look over the class **TreeExample**. This class has a main() function that reads data from a file (using ProductFileReader), stores that data in a sorted set, then prints the contents of the set..
2. Modify the function **readProdSet()** which reads Products from a file, one by one and adds them to the Set **prodSet**. Give a **message** if a **duplicate** Product (one with the same product code) is read from the file – we're not expecting duplicates in the file so the message would help us find problems in the file.
3. Add any necessary functions to **Product** or **ProductCode** for your Set to work correctly. Be sure you encapsulate functionality where it makes sense.
4. Modify the function **printProdSet()** which prints the contents of the Set prodSet.

Here is a sample run of the program:

java TreeExample

The Product Set:

Product: microwave Code: C-101-654-1A
    Mfg Price: $69.99 Sale Price: $99.90
Product: garden hose Code: I-212-AG12
    Mfg Price: $16.00 Sale Price: $28.00
Product: shovel Code: I-212-B53H21
    Mfg Price: $9.00 Sale Price: $17.50

… (Additional output here)