

Homework Assignment 2

(200 points + 100 bonus points)

Assigned Date: Thursday, October 14, 2010

Due Date: 5:30 PM Wednesday, November 10, 2010

Educational Goal

Become familiar with Java Core Collection Interfaces

Requirements

1. (40%) Generate 100 integers randomly and keep those numbers in 4 different data structures of List, Map, Set, and Queue.
2. (40%) Print those 100 integers in ascending and descending orders using those 4 data structures, respectively.
3. (20%) Write a report no less than 100 words to explain which data structure works best for Requirement 2.
4. (100 bonus points) Implement the Factory Method using one of the data structures. The program documentation must clearly explain how the Factory Method is used in this assignment.

Submission Requirements

1. Your program should be well-documented. Variable names and function names should be self-descriptive. Major functions should be explained clearly in comments. The program outputs should be presented in a clear sequence.
2. Test your program thoroughly. Submit the outputs of your program.
3. Turn in the paper copy and soft copy of the assignment. Submit a softcopy of the file through your UMassOnline account at <http://boston.umassonline.net/index.cfm>. Submit the paper copy along with the cover page in class. Paper copy should be bound firmly together as one pack (for example, staple, but not limited to, at the left corner). 5 points will be deducted for unbounded homework.
4. Name your file with CS310_ lastname_firstname_hw2. For example, student John Smith should name his file as CS310_Smith_John_hw2.
5. No hard copies or soft copies results in 0 points.