Loyola Marymount University
CMSI 281 Data Structures

Assignment 6: Hash Sets

Due Monday, December 17, 2018 11:59 PM PST

The focus of this assignment will be on designing and constructing the hash table data structure

Note: All points earned on this assignment will be applied to the final exam grade

Skeleton code has been provided to guide you along the way. The places that you will be required to implement has been marked with a **`TODO`**.
You **may not** use additional imports for implementing the assignment.

You will be implementing the functionality of:

- `hash`
- `add`
- `remove`
- `contains`
- `sort`
- `union`
- `intersection`
- `difference`

You will be provided with the following file(s):
`HashSetInt`

The functions that you will be implementing will be within the **`HashSetInt`** file

You may use the patterns and sample code discussed in lecture to aid your implementation. Since our implementation of the Hash Table do not allow for duplicates, you may directly reuse the functions we walked through in class for `hash`, `add`, and `remove`

For the sort function, you may implement any sort functions we've gone over in class.
Hint: the sort function can be helpful in finding the intersection of two sets

Note: You may implement additional helper functions, but you shouldn't need to. The skeleton code have been designed so that each function should be self-contained.

Setting Up Your Development Environment in Eclipse:

1) Launch Eclipse
2) Select File → New → Java Project → Enter the project name: assignment-6-hash-set
3) Use Java 8 (SDK 1.8) and click Finish
4) Right click the source (src) directory in your Project Explorer
5) New → Package → Enter the name of the package: lmu.cmsi281.assignments
6) Right click the package your just created (lmu.cmsi281.assignments)

You may either copy the provided file **HashSetInt.java** into the package directory
Or New → Class → Enter the class name: HashTableInt
And copy the contents of the provided HashSetInt.java into the newly created file

Submission:

You will submit a **zip** file containing the following to Bright Space:
`HashSetInt.java`

The name of the **zip** file must be **assigment6_lastname_firstname.zip**

Please fill in your last name and first name in the Java documentation located at the top of the each provided file in the `@author` annotation

Grading:

You will be graded on the following:
90% Passing all unit tests (15)
10% Readability, coding style, correctness in logic

Late Policy:

For each day the assignment is late, 50% of its worth will be deducted, e.g. 100% on time, 50% 1 day late, 25% 2 days late, etc.