EECS3311 Software Design
Fall 2019
Practice Lab Test 2 (Part I)

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1 Coverage

This practice test is meant for you to practice **part of** what will be covered in your Lab Test 2:

- Use and definition of generic parameters
- Implementing the Iterator Design Pattern

More information will be made available later.

2 Getting Started

- Unzip the starter project `book.zip`

```
cd
unzip book.zip
```

- Open a terminal and type the following command to launch EStudio

 Notice that you must type the **&**:

```
cd
estudio19.05 &
```

  – Once entering EStudio:
    * Click on `Add Project...`
    * Browse to the unzipped project directory on your home directory.
    * Go into the subdirectory `book`, then choose `book.ecf`.
    * Click on `Ok`, then `Open`.

  The compilation is expected to fail, due to missing class(es) and feature(s). Proceed to the next section to read instructions abut what you are required to complete.

3 Your Programming Tasks

The **BOOK** ADT supports the storage of a collection of entries. Each entry consists two values (which may be of different types) and can be uniquely identified by a search key (which can be of a different type).

A client of the **BOOK** ADT is expected to instantiate types of the search key and the two kinds of values. For example, the declaration $\boxed{\texttt{b: BOOK[STRING, DATE, INTEGER]}}$ intends to have a birthday book, where each entry consists of a person's name and their birthday date, and each entry is uniquely identified by some integer key. You are required to implement the **BOOK** via a naive solution, where there are three separate linear structures (**ARRAY** or **LINKED LIST**) storing the keys and the two kinds of values. For example:

keys	$\longrightarrow$	1	2
values_1	$\longrightarrow$	"Suyeon"	Yuna
values_2	$\longrightarrow$	2013-8-31	2016-6-20
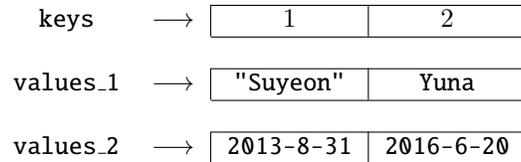
Values of an entry can be identified via the index of their associated search key. In the above example, the entry (**"Suyeon"**, **2013-8-31**) can be identified by the search key 1.

You are asked to:

- Study carefully the **test_book** feature in the **TEST_BOOK** class, from which you are required to infer the corresponding API and expected functionalities of features.

- You may create new classes and new features as you find necessary.

- In the **BOOK** class, follow the **-- Your Task** comments to complete the assigned tasks.

4   Receiving Feedback

- Solution will not be made available.

- Speak to your section instructor to go over your solution if you wish.