

1 Homework Assignment 1

Your assignment for Homework 1 is to finish off the building of a doubly linked list of records.

The driver program is given in the code on the website.

You will need to implement the following code so that the `interfaces` for `IPhonebook`, `IDLL`, and `IDLLNode` are all satisfied by your code. These three interfaces are in the website zip file.

1.1 STEP ONE

You are required to implement a `Phonebook` class that for the most part incorporates earlier code in the sample and the previous assignments. Your `Phonebook` code will need to have methods

- `public boolean add(Record record)` that adds into the linked list structure the instance of `Record` type passed as a parameter to the method.
- `public boolean contains(Record record)` that does a lookup on a complete record. (You do not need to use the additional feature you implemented in Lab 2.
- `public boolean remove(Record record)` to remove a record.
- `toString`

1.2 STEP TWO

You are required to implement a `DLL` class that creates and manages a doubly-linked list of `Record` instances.

Your `DLL` code will need to have a real constructor as well as methods

- `getHead`
- `setHead`
- `getSize`
- `setSize`

- `getTail`
- `setTail`
- `add`
- `addAtHead`
- `contains`
- `remove`
- `toString`
- `unlink`

1.3 STEP THREE

You are required to implement a `DLLNode` class that creates and manages nodes for a doubly-linked list of `Record` instances.

Your `DLLNode` code will need to have a real constructor as well as methods

- `getNodeData`
- `setNodeData`
- `getNext`
- `setNext`
- `getPrev`
- `setPrev`
- `toString`

You can use as sample input and output the files from the website zip file.