Gebze Technical University
Computer Engineering

CSE 222 - 2019 Spring

HOMEWORK 02 REPORT

SEZER DEMİR
161044065

Course Assistant : Ayşe Şerbetçi Turan

1 INTRODUCTION

1.1 Problem Definition

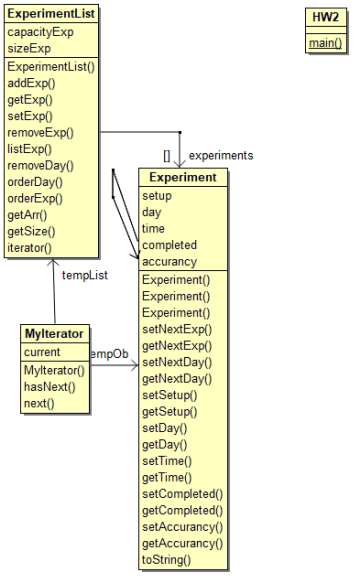
The problem definiton of this homework is the following:
Problem is creating a linked list structure to hold experiment information and access that information as fast as possible.

1.2 System Requirements

List must be iterable and we can't use collection framework from java standart library to implement our own linked list.

2 METHOD

2.1 Class Diagrams



2.2 Use Case Diagrams

Not required.

2.3 Other Diagrams (optional)

Not required.

2.4 Problem Solution Approach

- The list should be simple linked list but first elements of each day should connect to next day's first element to travel fast in the list.
- I use array to hold experiment objects to access them when I need to. This array doesn't hold these elements not in-line.
- To connect each experiment to each other, Experiment class has "nextDay" and "nextExp" named object of Experiment class.This nextDay object points the next day's first element if this node is the first element of current day. nextExp points next experiment object of current object.

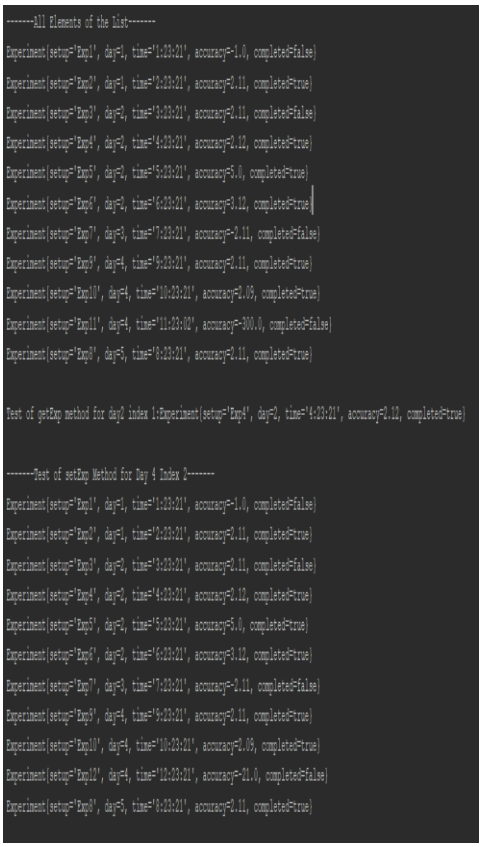
3 RESULT

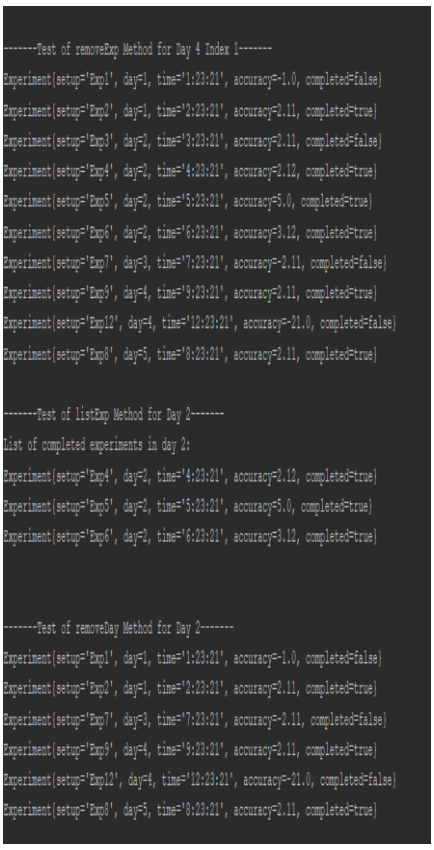
3.1 Test Cases

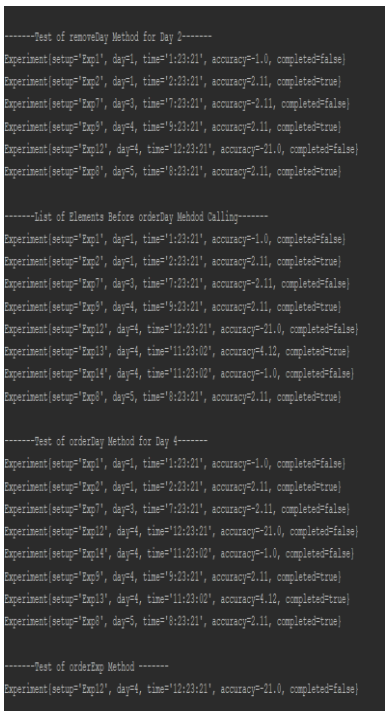
For testing the methods of ExperimentList class, I implemented a driver (i.e. Main) class. This class tests all the exceptional situations that I took notice with try-catch blocks and all methods in the ExperimentList class are called in driver class.

3.2 Running Results

Output of main method.







Method	Time Complexity	Method	Time Complexity
toString() (Experiment)	O(1)	(ExperimentList)	
getSetup()	O(1)	addExp()	O(n)
setSetup()	O(1)	getExp()	O(n)
getDay()	O(1)	setExp()	O(n)
setDay()	O(1)	removeExp()	O(n)
getTime()	O(1)	listExp()	O(n)
setTime()	O(1)	removeDay()	O(n^2)
getCompleted()	O(1)	orderDay()	O(n^2)
setCompleted()	O(1)	orderExp()	O(n)
getAccuracy()	O(1)	(MyIterator)	
setAccuracy()	O(1)	hasNext()	O(1)
iterator()	O(1)	next()	O(1)
setNextExp()	O(1)		
getNextExp()	O(1)		
setNextDay()	O(1)		

getNextDay()	O(1)		