AP Computer Science Name _____ Per _____

Chapter 4: Writing Classes

Overview

This chapter is an introduction to object oriented design for students. This chapter explores some of the concepts of how to break code into usable pieces as well as some of the important features of designing abstract data types and data storage classes.

Reading Assignment

Read pages 196 – 237 and "summary of key concepts" on page 243 in Java Software Solutions textbook.

Textbook Assignment

Book problems are due at the beginning of the class period *before* the Chapter 4 test. Problems will be checked for completion. You are encouraged to correct your answers with the solutions key during class, break or lunch.

- Multiple Choice pg 244-245 (4.1, 4.2, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10)
- Short Answer pg 248-250 (4.1, 4.3, 4.5, 4.7, 4.8, 4.13, 4.14)
- Programming Projects pg 251 (4.8 Modify the `Student` class – test your code!)
- AP Style pg 254 (4.4, 4.5, 4.6)

PracticeIt! Assignments

Complete the following PracticeIt! assignments. For each problem, *handwrite* the solution and attach with a printed copy of your "My Problems" page *sorted with newest on top*.

<u>Chapter 3: Parameters and Objects</u>

- Self-Check 3.1: methodHeaderSyntax
- Self-Check 3.2: MysteryNums
- Self-Check 3.3: Oops3-errors
- Self-Check 3.4: Odds
- Self-Check 3.9: parameterMysterySoda
- Self-Check 3.16: min
- Self-Check 3.19: stringExpressions
- Exercise 3.1: printNumbers
- Exercise 3.6: largerAbsVal
- Exercise 3.8: quadratic
- Exercise 3.17: padString
- Exercise 3.22: CollegeAdmit

Labs

Download the zip file from GitHub, "Chapter 4 Lab Files". Save to your `\APCS` folder and extract. A `\Chapter 4` folder will be created containing the lab manual and lab files. After your lab has been stamped, handwrite your solution and attach to this sheet. *You will NOT receive any credit for labs unless you turn in your handwritten solutions.*

Lab	Assignment	Completed
1	• Using the Coin Class (Folder `CoinProject` -> files `Coin.java` and `CoinTest.java`)	
2	• A Bank Account Class (Folder `AccountsProject` -> files `Account.java` and `ManageAccounts.java`)	
3	• Tracking Grades (Folder `GradesProject` -> files `Grades.java` and `Student.java`)	
	• Band Booster (You create folder `BandProject` -> files `BandBooster.java` and `BandTest.java`)	
4	• Representing Names (You create folder `NameProject` -> files `Name.java` and `NameTest.java`)	
5 GUI	• Stick Figure (You create folder `StickProject` -> files `LineUp.java`, `LineUp.html` and `StickFigure.java`)	

Download the correct finch robot files for the IDE and operating system you are using from http://www.finchrobot.com/downloads. Create a finch program by copying the `main` method from the `FinchTemplateFile.java` file.

Remember to:

- Configure the IDE to use the `finch.jar` package.
- Add the statement `import edu.cmu.ri.createlab.terk.robot.finch.Finch;` at the top of your class file.

Complete the Finch labs with a partner.

6 Finch	• Meeting Finch (You create `FinchCommands.java`)	
	• Finch Security (You create `FinchSecurity.java`)	