# **Pre-Lab Write Up**

Name: Lachlan Talento

Lab: Letter Inventory

1. Describe in English what this program is supposed to do (not how it does it). **This should be able to be your class comment at the top of your program** **(you may copy and paste this into your program later)**:

This program will do the following: Create an inventory that stores characters from a string

1. List the separate tasks needed to accomplish what you described in part 1. These should be the individual methods you are going to have in your program (**both public and private methods**):

Method 1 Name: Letter Inventory

Method 2 Name: get

Method 3 Name: set

Method 4 Name: size

List other methods below:

isEmpty

toString

add

subtract

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1. For each of the tasks/methods in part 2, describe in English what they are supposed to do (not how they do it). Additionally, note any information each of the tasks need to accomplish their goal as well as any information they need to give back. **These should be able to be used as your method comments in your program** **(you may copy and paste this into your program later)**:

Method Name: Letter Inventory

Method Description: Constructs an inventory (a count) of the alphabetic letters in the given string, ignoring the case of letters and ignoring any non-alphabetic characters.

Parameters (for each: type and what it represents): String data: a word

Returns (type and what it represents): nothing

Exceptions (type and when thrown): nothing

Method Name: get

Method Description: Returns a count of how many of this letter are in the inventory. Letter might be lowercase or uppercase (your method shouldn’t care).

Parameters (for each: type and what it represents): char letter: any char

Returns (type and what it represents): returns count: how many of that letter there is in the inventory

Exceptions (type and when thrown): If a non-alphabetic character is passed, your method should throw an IllegalArgumentException

Method Name: set

Method Description:

Sets the count for the given letter to the given value. The letter might be lowercase or uppercase. Parameters (for each: type and what it represents): char letter: a char. Int value: how many of a letter

Returns (type and what it represents): nothing

Exceptions (type and when thrown): If a non-alphabetic character is passed or if value is negative, your method should throw an IllegalArgumentException.

Method Name: size

Method Description:

This method displays the size of the inventory

Parameters (for each: type and what it represents): nothing

Returns (type and what it represents): inventory.length(): the length of inventory

Exceptions (type and when thrown): nothing

Continue below with the rest of the tasks/methods you listed from part 2:

Method Name: isEmpty

Method Description:

Returns true if this inventory is empty (all counts are 0)

Parameters (for each: type and what it represents): nothing

Returns (type and what it represents): Returns true if this inventory is empty (all counts are 0)

Exceptions (type and when thrown): nothing

Method Name: toString

Method Description:

Returns a String representation of the inventory with the letters all in lowercase and in sorted order and surrounded by square brackets.

Parameters (for each: type and what it represents): nothing

Returns (type and what it represents): Returns a String representation of the inventory with the letters all in lowercase and in sorted order and surrounded by square brackets.

Exceptions (type and when thrown): nothing

Method Name: add

Method Description:

Constructs and returns a new LetterInventory object that represents the sum of this letter inventory and the other given LetterInventory.

Parameters (for each: type and what it represents): LetterInventory other: another object/ inventory

Returns (type and what it represents): Returns a sum object: a sum of the two objects

Exceptions (type and when thrown): nothing

Method Name: subtract

Method Description:

Constructs and returns a new LetterInventory object that represents the result of subtracting the other inventory from this inventory (i.e., subtracting the counts in the other inventory from this object’s counts).

Parameters (for each: type and what it represents): LetterInventory other: another object/ inventory

Returns (type and what it represents): Returns difference object: the difference between the two objects

Exceptions (type and when thrown): nothing

1. For each of the tasks in part 3, give a brief description in English of how you plan to accomplish the task. You may either describe it thoroughly in English, use pseudo-code, or use a combination of the 2:

I will create all the methods for the class and try focusing on one method at a time. Within each method, I plan out what I need to do in the method, and then implement my solution to the problem that was given.

1. What questions do you still have about this lab after reading through the specification and completing the pre-lab?

Nothing