

### CCDSALG Term 3, AY 2019 – 2020

#### Project 3 – Word List (Binary Search Tree Application)

Section	Names	Task 1	Task 2	Task 3	Task 4	Task 5
S13	Agulto, Juliana Marie	X	X	X	X	X
	Duriman, Fritz Edward	X			X	X
	Misa, Eliana Louise	X			X	X

Fill this part with your section and names. For the tasks, put an X mark if you have performed the specified task. Please refer to the project specifications for the tasks.

#### IMPLEMENTATION DISCUSSION

1. What is the programming language that you used for the project? Why did you choose that programming language for Project 3? Explain briefly (1 to 2 sentences).

The programming language that we used for this project is Java. We decided to use Java because of the readily available methods in the Java API. Additionally, we decided to use Java because it is the language we are most familiar with at the moment as it is the language being used in CCPROG3. Lastly, Java specializes in using strings and since the elements to be added to the Tree were words, we thought that this programming language would be efficient for this project.

2. Depending on the programming language used:
  - a. List the libraries or APIs that you used in your implementation
  - b. Indicate how to compile (if it is a compiled language) your code, and how to run (execute) your program from the **COMMAND LINE**. Examples are shown below highlighted in yellow. Replace them accordingly. Make sure that all your group members test what you indicate below because this will be used verbatim to compile and run the code. The solution will be initially tested using the sample input text file that you have submitted. Then, another text file will be used to test the data.

##### Libraries:

- java.util.Scanner;
- java.io.\*;
- java.util.regex.\*;
- java.util.ArrayList;

##### To compile from the command line (for compiled language only):

```
C:\CCDSALG>javac Main.java
```

**To run from the command line:**

C:\CCDSALG>java Main

3. How did you implement your BST data structure? Did you implement a single BST or multiple BST? Why? Explain briefly (2 to 3 sentences).

We implemented a single BST by inserting words that were not present in the BST yet. We implemented a single BST as opposed to multiple BSTs because we believe that it would be easier to search for duplicate words as only one BST would have to be searched.

4. Disclose what is NOT working correctly in your solution. Be honest about this. Briefly explain the reason why your group was not able to make it work.

Everything works correctly since we were able to test it multiple times.

5. What do you think is the level of difficulty of the project (was it easy, medium, or hard)? Which part is hard (if you answered hard)? Type your answer individually for this question.

Agulto, Juliana Marie	For me, I think this project has a medium level of difficulty. Since we were able to choose our own programming language for this, it was a bit easier compared to the previous projects that we had in CCDSALG. I was a bit lost when starting the BTS algorithm, but after knowing how it works during the class discussions, I was able to visualize how the code works and implement it to our program.
Duriman, Fritz Edward	I think that the level of difficulty of this project was medium. For me, it is easier to understand a code if you were the one to make it from scratch. Whenever a code is provided for me, I have to first understand how the person who made the code wanted to implement the functions and variables. Having to learn new algorithms is always difficult at first, but once you've understood how it works, effectively implementing this becomes easier
Misa, Eliana Louise	Personally, I found the project to be a medium level of difficulty. Compared to the other projects we had in CCDSALG, this project was less abstract because we were able to see the inputs and outputs clearly. Although grasping the concept of Binary Search Trees was difficult at first, once I was able to understand the topic, it became easier to implement the methods.