**Using Java to Demonstrate Aesop’s Fable of “The Tortoise and the Hare”: An Introduction to Java Mini Project**

Allison Juliette Snipes

Department of Computer Science, Johns Hopkins University

EN 605.201.81: Introduction to Programming Using Java

Dr. Sidney Rubey

July 6, 2020

**Introduction**

The purpose of Mini Project One was to simulate a popular children’s fable entitled “ The Tortoise and the Hare”. In the fable, a prideful and egotistical Hare challenges a slow humble Tortoise to a race. One would naturally assume that the Hare would win against the Tortoise. However, it is the Tortoise who wins the race by being consistent, while the overconfident Hare falls asleep and looses the race! While Mini Project One utilizes the same two contenders, the outcome of the race is completely chosen at random.

**Program Design**

The program is organized into three major classes: a Tortoise class, a Hare class, and a main class. I designed the the Tortoise and Hare classes to dictate each contender’s speed and and position during the race. The main class: sets each contender to the same starting place in the beginning, selects each animals’ position and speed at random, and determines the winner of the race at the end of the program.

As my project is simple in nature, it does not contain complex data structures. In fact, it does not contain much data structures at all; except for the occasional usage of the Integer Primitive data type. However, basic Getter and Setter Methods were utilized in the main class to set the starting position of each of the players.

It is important to note, that there are not many alternative approaches one can utilize and still achieve the proper outcome for this project. For example, when I first started my project, I accounted for each move possibility during the race via Switch statements. I listed fifteen cases in total when only ten were needed. The extra five cases produced unwanted results. Lastly, how the While Loop is created will greatly affect the program’s output as well. An incorrect While Loop will cause a recursive loop to occur (if no clear winner is chosen).

**Reflection**

There were numerous tools and skills that I was able to learn during this assignment. Most importantly, I was able to learn how to utilize multiple classes effectively for my application to execute. Prior to this project, I did not know how to confidently plan or execute an assignment that required multiple classes. I was only confident in creating and utilizing various methods to execute my projects and assignments.

If I had the opportunity to do this project again, there would be a couple of things that I would do differently. First, I would read and reflect more on the instructions given to complete the assignment, and inquire with my professors for clarity. Secondly, I would work with my teammates to better improve my brainstorming process.

**Conclusion**

In closing, I thoroughly enjoyed this Mini Project and was grateful to put into practice the crucial skills and materials discussed during the homework and lectures. I plan on coding this project again to add more contenders, and scenarios for the users to enjoy.