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# Introduction:

This report is for Wenhan Li and Minfang Yu's Seng201 assignment.

The report includes 5 sections. The first part is about the structure of the application, design choices we made as well as the inheritance details we implemented. The second section describes the unit test and its coverage, along with the meaning of the percentage. The third part is the review about our program.It will discuss what went well and what didn't as well as what can be done as improvements for further programs. In the fourth section, the contribution of both partners are shown. The final part is the feedback of whole experiences of working together to finish a complete java project.

1. The project is called Avengers: Home Sickness. The game includes multiple-module structures as well as a main function. The inheritance we implemented in this project was the parent class such as Animals, Crops and their son classes: chicken, cabbage... Considering the maintain and debug complexity, we decided to introduce modulations to help us. Between classes, we instantiated the classes in the game logic inside GUI. By calling set and get methods, we protected and stabilized the private variables set in the front. All classes in GUI extend JFrame. They call each other mostly by mouseclick event to instantiate a new frame of a class. The UML will be attached in the zip folder.

2. The unit test coverage is relatively low in our java project, the reason behind

this is because we wrote too many windows which barely related. We only tested a small amount of get and set methods in AnimalsTest. Nevertheless, the methods that will pass on the value of variables and execute formal behaviors in the game are mostly been tested in other test classes.

3. At the beginning,we found that there were too much information in the main methods which made the project too difficult to debug and maintain, thus, we implemented modulation and bettered the main function. Then we were stuck on the passing value of variables along the JFrame since we have more than 20 windows. Nevertheless, by instantiating the class object and using the get, set methods we successfully passed the value of variables. To improve our further coding abilities, we suggest using modular in the project, this will decrease the possibility of crash of the project.

4. Both of us teammates had worked for more than 60 hours on the project, meaning more than 10 hours a week. After discussing with each other, we had an agreement that Minfang Yu contributed 50% of the project and Wenhan li contributed 50% as well. Considering both of whom had worked not only

separately on their own part but also merged together and solved the difficulties of each other's. For example, Wenhan had went the debug process where as Minfang succeed the inheritance in the game logic. Thus, we agree that we worked evenly.

5. This project overall had enhanced our abilities of collaborating and communication. We also found the importance of thinking in a macro-perspective way and schedule the steps properly. More importantly, finish the work on time, otherwise your teammates could stuck because of you. All in all, this java project experience is an outstanding introduction to the software engineering.