**Herman Mann**

**CMSC 203**

**Assignment 4**

**Property Management Implementation**

A screenshot of a computer screen

Description automatically generated**GITHUB SCREENSHOTS OF ASSIGNMENT 4**

Table

Description automatically generated

Graphical user interface, application

Description automatically generated

Graphical user interface, text, application

Description automatically generated

Screenshot

Of GUI with

Several

Properties

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

MAX Rent button result Total Rent button result

Screenshot of PropertyMgmDriverNoGui

A screenshot of text

Description automatically generated

Reflection Paragraphs

Throughout the completion of Assignment 4, I learned about how we can use a variety of different methods to make it useful for a successful project implementation like this one. I learned that the combination of the three different classes of Property, plot, and the ManagementCompany all came as one to develop a successful working algorithm of getting the number of properties the user wants (must be less than or equal to 5) and to list them through the use of the Graphical User Interface (GUI). I learned that the use of setters and getters are so useful to a java program to make it more convenient to a user to understand the basis of what is happening of how the properties are getting added, producing the total max rent, the overlapping and encompassing of any individual plot of another Management company plot. I learned that working with this project involved the great use of conditional statements, repetition structures of loops like the for loop, use of various different types of methods, and the Javadoc commenting for the project to make it look more professional and ideal for any programmer to utilize the making of this project into a very successful one.

I struggled with the addProperty method, and how to really do it all together. When it came to returning the result of -3 and -4, I was not sure how to call the plots and the encompass method, and the overlapping method for these two results to successfully return. I finally solved my problem by testing out very different things and happened to work and passed the JUNIT tests successfully, both the student and the general ManagementCompany tests. I did not encounter any other issues, but the other issue was my totalRent test of ManagerCompany test, it kept failing and failing and I got extremely frustrated. I found out the error came from my incorrectly implemented boolean overlap method. I fixed the issue of the boolean overlap method, and the error was that it didn’t return any false or true value of when it was considered overlapping or not until I created two new boolean variables of false and true. It worked after I carefully implemented the overlap method to the significant extent of making it right for the totalRent test to pass in the ManagementCompany test overall. I solved my issue successfully. I would start my projects way on time and focus on stepping out on smaller parts of the project to develop it more properly and accordingly to make it more informative and understandable to other programmers itself.

This project made me realize there are a lot of great and wonderful features of the Java program itself, the utilization of the different methods, setters and getters, the use of a GUI (graphical user interface), the Javadoc and the total by part of each method to contain so much detail oriented code of the Java language in one system of things. The combining of the three classes into creating one big and great algorithm shows the creative and unique ways of Object-oriented programming and how it is such a big thing in this world and for the future, and making the future way more advanced due to the object-oriented techniques and skills the Java program stresses its importance on. Also, the implementation of do not repeat code comes into play with the Java programming and it showed me the example throughout the successful completion of this project.