The artifact I enhanced for category one (software design and engineering) is a set of Java projects that included JUnit tests for three different mobile applications. There are three Java projects, Appointment, Contact, and Task. These 3 Java projects are also what the mobile application is. An appointment application, a contact application, and a task application. I created the Java projects/classes, and in each project/class, coded the requirements needed for that mobile application. Once the requirements have been made, I need to test them to ensure they function correctly. To accomplish that, I then created JUnit tests to test the requirements. This artifact was created for a Software Test, Automation, & QA course that I took in 2021(21EW4).

One of the main reasons I selected this item was because I enjoyed that course, and it piqued my interest in possibly having a career as a software tester. Since I will be interested in that profession, I wanted to enhance my skills and improve the project as it would be helpful and vital in my growth and journey to be a software tester. The components of the artifact that showcase my skills and abilities are my JUnit test. You are able to see that I'm capable of creating tests that test the mobile application's requirements. You can also see that I can create and code the application's requirements correctly with no errors. I was able to develop software requirements for the mobile application. I then took those requirements and combined them with my skills in JUnit test creation, all while using the code coverage tool provided in Eclipse.

JUnit testing is a skill used by those in the Software QA Tester industry. Those in the Software QA Testing industry must test software, debug code, and improve the usability of the software program. JUnit tests consist of writing and running tests to ensure the software requirements are met. This helps you to detect errors and bugs in the code early. My skills and abilities with this artifact showcase my software design skills in providing computer solutions in the form of JUnit testing and code coverage that helps the software industry deliver products that meet industry goals and standards by having software that meets clients' requirements with no bugs and errors.

The artifact was improved by adding comments for lines of code that explain their purpose and the added descriptions for each Java project that explains the purpose of the application and tests. I also added a updateAppointment to the AppointmentService so customers could update appointments instead of either deleting existing appointments or adding a new appointment. I also added a updateAppointment test to ensure a customer can indeed update an appointment. Finally, I added more specific test cases that tested the requirements and gave accurate results.

Overall, I was able to meet my planned enhancements. However, I did have trouble improving the code coverage for the Appointment Java project. The enhancing of the artifact was an eye-opener. I was able to see my strengths as well as weaknesses. I now know what areas I need to improve, which is good to know since it will help my growth and help me become a better software tester. What I learned the most was the importance of creating correct code that works as intended. It's vital to create code that looks great and works and functions as intended. If the code is not correctly written, it can still run with no errors, but the correct results or task will not be produced, rendering the software unusable. The main challenge I faced was code coverage. I wanted to improve the coverage for the Appointment Java, but I was unsuccessful. Despite the challenge, I fully intend to keep working on it until I can improve it.