The first artifact I worked on was from my CS320 class. I created these files originally in April of 2024 in java. The purpose of this assignment was to test methods we created that limited user input by having certain requirements for acceptable input and if it was incorrect the program would throw an exception. This program originally taught me how to use testing features in java which is something I had not before.

I included this project because a lot of my time learning computer science had been in java back in high school. So I wanted to showcase my ability to take the java files and turn them into other programming languages and to learn more about how other languages test their code like the original artifact. While changing languages doesn’t necessarily improve it, I wanted to showcase what other languages I had learned about. By showcasing my C++ knowledge, I showed more well roundedness and my ability to utilize different programming languages. One of the biggest challenges from this enhancement was figuring out and learning about which testing tool I wanted to use for C++. While searching through the tools I came across googletest. This tool was used by a few projects that I had heard about and wanted to try it for myself, so I decided on it and after a lot of reading and trials I was able to get it to work with my C++ programs. By including this artifact I showcased my ability to learn new techniques for different languages and my ability to learn how to use new tools with them. Feedback on this project was good, so when I went back and looked at it I decided to add a few minor changes and add in some other parts for clarity, mainly for myself. When looking at the course outcomes for the capstone, I used this artifact to showcase my ability to demonstrate my techniques, skills, and tools to overcome my challenge as well as design and evaluate my solution and make appropriate trade offs with my design choices. The artifact also showcases a form of a security mindset by having requirements to user input. Work like this can be used to lower vulnerabilities by only accepting certain forms or restricted user input. A project like this could be used for password protection should it be developed further. This artifact does not showcase any form of collaborative work or any oral, visual, or communicative work.