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CS 499

Module 3 Narrative

The enhanced artifact is a buffer overflow checker that was created back in Module One of CS 405 (Secure Coding). Its functionality includes checking for overflow and underflow using a list of common variable types.

While simple in function, the artifact represents a good early project with the potential to be rewritten in a way that follows best practices such as input validation, clear error messaging, good comments, and solid test coverage. In this way, simplicity serves to highlight how my skills have grown by providing a basic template of comparison. The artifact itself has been improved via the addition of modular helper functions, more explicit error handling, expanded data type coverage, and edge case handling.

My intended course outcome with these changes was the development of a security mindset. I believe that I’ve satisfied the outcome by writing in robust error handling and expanding test coverage.

During the process of enhancement, I was able to see the effectiveness of modularization. Separating reusable logic into helper functions leaves the code easier to maintain and reduces redundancy. The addition of multiple data types and extreme values also ensured that the program functioned correctly under different conditions. There were some limitations that came with difficulty, such as triggering certain errors without getting silent. These were overcome with structured error handling and more detailed exceptions.