What is one program you wrote that you were particularly proud of during this course? Why were you proud? Explain.

One program that I am particularly proud of is my **Vulnerability Scanner**. This program is designed to analyze website security by checking headers, scanning common ports, and evaluating SSL/TLS configurations. I am proud of this project because it integrates multiple key programming concepts such as function decomposition, exception handling, and working with external libraries like requests and socket. Additionally, I successfully wrote test functions using pytest, ensuring my code was reliable and efficient. The process of developing and debugging this program reinforced my problem-solving skills and increased my confidence in writing structured and reusable code.

How might you use the skills you learned in this course in the future? This might include skills such as programming, problem-solving, debugging, etc.

The skills I gained in this course will be highly beneficial in my future as a **software developer and Cybersecurity professional**. First, my understanding of writing modular and reusable functions will help me develop efficient software solutions. Second, learning how to research and implement external libraries has given me the ability to quickly adapt to new technologies. Third, debugging techniques and exception handling will be crucial when working with large-scale applications. Furthermore, testing with pytest has shown me the importance of ensuring code reliability, a skill that will be valuable in Cybersecurity and software development.

Describe an experience from this class that has given you confidence that you can learn new programming skills in the future.

One key experience that boosted my confidence was the **process of debugging and refining my Vulnerability Scanner project**. Initially, I faced several challenges, including handling network timeouts, missing dependencies, and incorrect SSL evaluations. However, through persistent problem-solving, researching documentation, and applying exception handling techniques, I was able to improve the program’s functionality. This experience reassured me that, regardless of the complexity of a programming challenge, I have the ability to research, break down problems, and implement effective solutions. It reinforced my belief that programming is a continuous learning process, and with dedication and practice, I can master new technologies and languages in the future.