

CSIS 6033 – Lab 1

Implementing MITRE Most Dangerous Errors (C++/Python)

In this lab you will be implementing some of the top 25 most dangerous software errors from the Common Weakness Enumeration from MITRE. You should configure a virtual machine in Virtual Box to complete your assignment. You can choose any guest OS to use, but it should be capable of compiling and running C++ code and Python if you're a graduate student. If you have any issues getting a VM setup, let me know as soon as possible.

In this lab, you will be responsible for completing the following:

- Write a program for each of the indicated errors from the Common Weakness Enumeration with the indicated programming language
 - Undergrads
 - CWE-119 in C++
 - CWE-125 in C++
 - CWE-416 in C++
 - CWE-787 in C++
 - CWE-476 in C++
 - Graduates
 - All of the above
 - CWE-502 in Python
- Provide the input necessary (if any) to exploit the error in your code
- Briefly explain, in your own words, how the error works in your program/why the input exploits the error
- Take screenshots of the terminal results when running your code with the inputs
- Submit a zip file to Blackboard which contains the following:
 - Source code files
 - Word document with answers to bullets 2-4

Everything you need to get started should be in the CWE entry for the errors. When writing your programs, I strongly encourage you to start with one of the “**Demonstrative Examples**” provided in the CWE documentation. These are not complete programs, but will give you a good starting place. You must use the indicated language when developing your programs. I have selected the errors for this assignment specifically because they are prevalent in the indicated programming languages.

For full credit your code should compile, run as described, and be appropriately commented. If I need to know anything in particular about how I should compile your code, include that in your document.

You should submit your solutions to Blackboard by **Tuesday, June 23 at 11:59pm**. Your assignment should be of the format CSIS6033_Lab1_pape.zip, where you should substitute your own last name. Be sure to clearly indicate any referenced material that you used to complete this assignment.