* Define: What is a security vulnerability?

Errors and flaws that any individual or organization can exploit for malicious gain. These

attacks can be used to further control the program for either personal gain, money, or to be

taken down for any reason.

* Identify: What kinds of vulnerabilities would be identifiable in C++ code?

Some of the vulnerabilities in a program would include Invalid string code, invalid

change from int’s to pointers, and keeping sensitive information safe. Invalid string code

could be fixed by formatting your C++ user input statements correctly. Making sure that we

are changing the int’s to pointers correctly, by using the correct memory size. Keeping

information safe by encrypting it can help keep vulnerabilities down.

* Purpose: Why would you be looking for vulnerabilities during legacy to C++ conversion rather than during testing?

There are some vulnerabilities that are known to be avoided, therefore by practicing good

coding techniques. You can already change during conversion time rather than waiting for

testing time. There is also the time and cost factor as well. By changing things sooner in the

software development lifecycle, this can save you and the company both cost and time.

* Solutions: How do you determine the appropriate fix to a security vulnerability?

Some examples of preemptive protection against hacks are, having user Identification

practices is a big help in trying to keep entities from attacking you program. Having

protected usernames and passwords are a step in the right direction. There is also encryption

and decryption techniques that will keep the programs protected in a more secure

environment. This is as long as the user keeps the key. Also keeping a list of trusted sources

in which to trust is helpful

References:

1. Higgins, Seah (May 25th, 2020) Finding and Fixing C++ Vulnerabilities, https://www.securecoding.com/blog/finding-and-fixing-c-vulnerabilities/
2. Morrow, Susan (09-20-2022) What is Secure Coding and why is it important? , https://vpnoverview.com/internet-safety/business/what-is-secure-coding/#:~:text=Secure%20code%20will%20help%20to,Software%20vulnerabilities%20are%20rampant.