



Department of Computer Science

CS411 - Network Security
Feb 3rd 2020
Assignment 1 - Weight 5 %
Individual assignment

Task 1. Explore the CWE and OWASP website and select any 5 vulnerabilities. They should be from different phases of software development e.g., one or two from requirements, one or two from design, one or two from code, etc. Clearly mention this.

Overlap with other students is **highly discouraged**.

Discuss the vulnerabilities, their actual cause ("tangible error"), their proposed mitigation(s), and how effective are those mitigations.

For the code level vulnerabilities write the bad code and the good code in C/C++/Java. Identify the precise the line which is giving rise to the vulnerability.

Task 2. For each of the vulnerabilities selected in Task 1, find the CVSS score from the NVD database. Does the score and the values assigned to different variables in the score calculation formula make sense to you? Would you like to make any changes in the values of the variables? If yes which one and why?

Also identify at least one real instance of each of your selected vulnerabilities.

Task 3. Construct a secret key cipher of your own. You could use any variation you like. Do you think your cipher will be difficult for the cryptanalyst to guess?

Grading rubric

Task 1 = 2 points

Task 2 = 1 point

Task 3 = 1 point

Presentation errors = 1 point

Discussion among students for all these tasks is not only **allowed**, it is **HIGLY ENCOURAGED**.

Any kind of plagiarism (from a student or a website or any other source) will lead to an F in this assignment (as a minimum penalty)

Deadline to submit: Friday, Feb 21st, before 12 Noon via SLATE AND the hard copy in my office. Any assignment received after the deadline will not be accepted.