CS363 Information Assurance and Security
-- Midterm Exam Study Guide

*(**I reserve the right to interpret if a question is covered by this guide. Still, only about 90% of questions are covered by this guide**.)*

Overview:
1. CIA.
   - Can rephrase it.
   - Can give application examples.

Buffer overflow:
1. Can explain what it is, the cause of it, how to implement it
2. Know stack-based, heap-based, and in other segments
3. Can identify buffer overflow in the source code

Shellcoding:
1. Can explain how to use shellcode to exploit buffer overflow attacks
2. Know the process to write shellcode

Format string:
1. Know how to use format string to exploit buffer overflow attacks
2. Can identify format string security issues in the source code

Countermeasures:
1. Know defenses and countermeasures: canary, shadow stack, non-executable bit, ISR, ASR
2. Can use defenses and countermeasures to analyze scenarios.