Study Guide for CSCI125 Midterm I

The exam will have two parts: written part and programming part. You may bring notes on 3x5 index card (both sides). Please remember that the exam will test you on concepts not facts.

**Topic covered:**

* Introduction to computer science: computer system, programming language, algorithm, machine learning
* Security, Cybersecurity and challenge
* CIA Triad: Confidentiality, Integrity, Availability
* Access Control/Authorization, Authentication, Identification
* Password Guidelines, Password manager, Multi-Factor Authentication
* Python, variable(int, float, string), type, arithmetic operation, input, output, assignment statement, for loop

**How to review:** Please check in-class exercise, and lecture notes and homework.

**Sample Questions:**

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| **1.Your health care provider was keeping ‘electronic medical record’ (EMR), but they were not remotely available to his patients. Recently, he changed his policy and allowed his patients to remotely view their EMRs. Will the new policy increase availability of information? Will it reduce confidentiality? Explain.**    **2**.**True or False**  Personal identities such as birthday, email, address are private.  **3.** **What qualifies as multi factor authentication? Give an example.**  **4.** **What’s the difference between data integrity and system integrity?**  **5.** **What is the problem with the following code?**  >>> X = 1 + 3\*2  >>> Y = “3.4”  >>> X+Y | **6. Which of the following function convert a string to a float in python?**   * **toNumber(x)** * **number(x)** * **float(x)** * **toFloat(x)**   **7.What is the output?**  >>> x=3 \*\* 2  >>> y = x % 3  >>> y  **8.What is printed by the Python code?**  payment = 2000  payment = payment –1000  print(f’The payment is {payment}’)  **9.What is printed by the Python code?**  x = 5  x = x + 3  print(x)  ------------------------  for i in range(2,9,2):  t = i\*\*2  print(t)  **10. (Programming) Write a Python program that calculate total cost of gas. It prompts the user for two numbers: price of gas per gallon and gallons of gas used, calculate the total cost, and then prints it out.** |

**You will also be asked to perform a security analysis on certain websites such as** [**https://www.donotcall.gov//**](https://www.donotcall.gov//) **,** [**https://www.usca.edu/family-fund/make-a-pledge**](https://www.usca.edu/family-fund/make-a-pledge)

