

## CSCI E-2A Assignment 5. Due October 26 at 11:59 pm EDT.

Please email your answers to [cscie2a@googlegroups.com](mailto:cscie2a@googlegroups.com) Please attach your work as a file, either a pdf (preferred) or a .doc file. Please name the file as follows: *Lastname\_Firstname\_Assignment\_5.ext* (e.g., *Moore\_Tyler\_Assignment\_5.pdf*). Also note: the recommended length of your answers for the entire assignment is 2-3 pages (plus ½-1 page for those answering question 3).

1. In Prof. Sweeney's lecture, she explained how SSNs are issued following a structure based upon the state and time of issue. In particular, the first 3 digits are assigned to particular states, and digits 4-5 are issued based on the time of issue.
  - A. What are the advantages of such an approach? Law enforcement claims that the structure helps to fight fraud. How so?
  - B. How might this structure be exploited to commit identity theft? Think of a plausible, real-world example.
  - C. Sweeney proposes that the SSN issuing process be changed, so that SSNs are randomly assigned. How much will this help? Who would it help, and who would not be helped?
2. SSNs serve many purposes. Two key functions of SSNs are to *uniquely identify* an individual and to *authenticate* an individual. For example, the IRS uses your SSN to create a unique tax record. Meanwhile, credit card companies use SSNs to not only identify you, but also to authenticate you by matching your SSN against other known information such as your address and phone number.
  - A. Why is it that student credit card applications are the most easily forged?
  - B. The FBI favors incorporating fingerprint information onto driver's licenses. One proposal is to use fingerprint information, rather than SSNs, to identify and authenticate people for obtaining government services and facilitating commercial interactions. Are fingerprints a desirable replacement to SSNs for identity and authentication? Explain at least three advantages and/or disadvantages to using fingerprints compared to SSNs. (Hint: I'm looking for more than just a privacy discussion.)
3. For those who did not attend the lecture, please answer the following: Some have proposed the creation of a unique 'personal health ID number' to streamline the access to disparate health databases (see <http://healthcare.zdnet.com/?p=1449>). What are the advantages to such a scheme? What are the risks? Would a personal health ID number avoid the pitfalls of SSNs? Present a concise argument for or against the adoption of a personal health ID numbering system.