2018 AP CSP Summer Assignment

**WHILE YOU READ:**

* Identify major points
* Ask questions about what you are reading & make comments on what you are reading

**Chapter 1**

1. Explain the following Koans – Argue if you agree that it is a “truth” and if it will always be a “truth.” How does each koan intersect with your life as a student?
   1. Koan 1: It’s All Just Bits
   2. Koan 2: Perfection Is Normal
   3. Koan 3: There Is Want in the Midst of Plenty
   4. Koan 6: Nothing Goes Away
   5. Koan 7: Bits Move Faster Than Thought
2. Describe, in your own words, Moore's Law.
3. Give an example of how the digital explosion is "neither good nor bad" but has both positive and negative implications.
4. When did the Internet start as we know it, who was it created by, and what was it called at that time?

**Chapter 2 -** This chapter describes the various ways in which our personal privacy is compromised by the digital explosion.

1. What is an RFID tag and what does it do?
2. What is an EDR and what does it do?
3. Is it possible to identify someone, perhaps a patient, knowing just his or her gender, birth date, and zip code? Explain.
4. What is the difference between "big brotherism" and "little brotherism"?
5. How do you feel about “Big Brother” watching you? Do you think having security cameras everywhere is good or bad?
6. Is the Privacy Act effective? Explain.
7. “The digital explosion has scattered the bits of our lives everywhere: records of the clothes we wear, the soaps we wash with, the streets we walk, and the cars we drive and where we drive them.” (pg. 20) In 1 or 2 paragraphs, address the question 'Am I worried about my privacy? Why or Why not?’
8. How has the social evolution affected privacy? Consider social networking.
9. Is there any info out there about you on the web that embarrasses you? If so, what would you have done to prevent it?
10. How do “we leave digital footprints and fingerprints?” Do you think this is important for everyone to know? Why or why not?
11. Is it really possible to browse the web anonymously? Explain.
12. Search the web for a recent news story that deals with privacy. Write a paragraph.

**Chapter 3**

1. Give an example of your own when just knowing what a computer did wasn’t sufficient - you really needed to know how and why it was doing what it was doing as well.
2. What is file metadata and how does it “fingerprint” a file. Include a discussion of file metadata benefits and challenges, with an example.
3. How does highlighting in a PDF doc work? What are the computational ideas utilized?
4. What do you think the Internet would be like today if different companies’ network protocols were still competing for adoption for the Internet, instead of TCP being the de facto standard?
5. What is Steganography and why do they use it?
6. When a hard drive is erased, are its contents really gone? What happens when a file is "deleted"? What would you have to do to delete a document from your computer so that it could not possibly be read by anyone else?
7. Have you ever sold a computer or hard drive, and what was on the disk at the time?
8. Can you be sure a digital image has not been "Photoshopped? How would one detect this? Could a digital photo be used as evidence in court?
9. What are filename extensions? What are they used for?
10. What is lossless representation? What is lossy representation? What are the trade-offs in using each representation?
11. What is steganography and what is it used for?
12. Would you rather own a camera (or camera phone) with a higher number of megapixels or lower? Explain.
13. Other than digital images, what might be an example of a computer model? Explain your answer based on the definition of a model.