

AP COMPUTER SCIENCE PRINCIPLES  
SUMMER /1ST WEEK ASSIGNMENT  
2021-2022

Dear Future AP CSP Student,

Welcome to AP Computer Science Principles. I am eagerly anticipating a great year of AP CSP. In order to ensure the best start for everyone next year, you will have to complete a little work this summer.

Computing has transformed our lives in so many ways. And mobile computing, where we are constantly connected to others and to the world via our mobile devices, is challenging us right now to come up with new norms about privacy, security, the ownership or openness of data and information, and other issues. Like any technology, mobile computing has both positive and negative impacts. We need to reflect on these impacts in general and we must also think about the impacts we will create as we build our own mobile apps.

One way we will be addressing these issues in this course is by reading and discussing *Blown to Bits: Your Life, Liberty, and Happiness After the Digital Explosion*. This book is available entirely online with a separate PDF file for each chapter. You can easily download the pdf file. Save it in your phone/tablet or other e-reader device so you can access it anywhere if need be:

<https://tinyurl.com/5m4evpc>

You will need to read all chapters of the book and complete the following questions from each chapter. You MAY use another sheet of paper to record your answers. Just make sure you submit your packet before the end of the first week of class.

I HIGHLY recommend that you spread out the reading over the summer. Please do not try to complete it all in the first week of school. AP Computer Science Principles takes time to process and grasp at a level necessary for success with the AP test. Remember, AP CSP is a college level course. Taking a college level course in high school is difficult, requires dedication, and is a great investment in your education so prepare yourself and arrive ready to learn.

Please let me know if you have any questions.

Have a great summer!!

Mrs. O'Connell

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# *AP Computer Science Principles*

## *Summer Assignment*

### **Blown to Bits - Chapter 1 Questions**

1. What is a *bit* and what does it mean to say (Koan 1) that "it's all just bits"? Give examples of the different kinds of things that today are represented by binary data.
2. Describe 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. US society has already reached a point where candidates for public office are often removed from candidacy because evidence exists revealing something undesirable in their past. In this age of social media, the candidates of the next generation may have a public digital history containing decades' worth of easily discovered photographs, remarks, opinions, etc. which can be searched for such evidence. How do you think this will change the way the public views its public representatives? Will it become easier or harder to be elected with scandals in your past? Will someone about whom very little social media exists be more or less likely to be elected?

## Blown to Bits - Chapter 2 Questions

1. What is an RFID tag? Describe any experience you might have had with one. (THINK! I can almost guarantee you've come across several of these!)
2. What's the difference between "big brotherism" and "little brotherism"?
3. The authors' used an analogy of "footprints" and "fingerprints"... what's the difference? Can you give a couple examples of each?
4. In 1 or 2 paragraphs, address the following topic: 'Why I am (or am not) worried about my privacy.'

### Blown to Bits - Chapter 3 Questions

1. What is *metadata*? Give an example.
2. What is a *model*, as this term is used in how images and sound recordings are digitized?
3. What's the difference between a *raster image* and an *ASCII representation* of a text document?
4. What is *steganography* and what is it used for?
5. What would you have to do to delete a document from your computer so that it could not possibly be read by anyone else?

### **Blown to Bits - Chapter 4 Questions**

1. On page 117, the authors claim that "The architecture of human knowledge has changed as a result of search." What does this claim mean? Do you agree?
2. When you type a word or phrase into the Google search engine, does it search the web? Explain.
3. Think of a number between 1 and 100. If you tell me "too high" or "too low" I can guess the number in 7 guesses. How come?
4. On page 144: "Google emerged -- from this dilemma at least -- with its pocketbooks overflowing and its principles intact." Do you agree?
5. What do you think about the differences between Figure 4.10 and Figure 4.11?

## Blown to Bits - Chapter 5 Questions

1. What is *security through obscurity* and why is it bad?
2. What is the *key agreement protocol* and why is it so important to Internet commerce?
3. What is a *certificate* and what role does it play in Internet security?

## Blown to Bits - Chapter 6 Questions

1. The title of this chapter is *Balance Toppled*. To what are the authors referring?
2. How do you feel about copyright holders "commandeering" ISPs and search engines as protectors of the copyright holders' rights (SOPA)?
3. What do you think of Creative Commons licensing? Is it effective?
4. To me (Mr. Seeley), this chapter feels the most dated. Several products and services have entered the market in the past eight years using subscription services as a way for people to gather media, such as Netflix, Pandora, Google Play, etc. Do these products solve this copyright issue? Does it raise other issues?

## **Blown to Bits - Chapter 7 Questions**

1. What type of censorship have you had to deal with? Do your parents censor what you can do online?
2. How has the school's privacy filter affected you as a student? Do you think it is a useful tool? A necessary tool?
3. Should sites like Twitter, Facebook, etc. be totally uncensored, or should they allow any content whatsoever to be posted and transmitted? What content (if any) should be forbidden?
4. How do ethics on the Internet differ from ethics in printed material? Is there a reason for this?



## Blown to Bits - Chapter 8 Questions

1. Why does Congress no longer license every radio transmitter, as they did during the initial radio boom in the 1920s?
2. How do you feel about the FCC's role in censorship? For which mediums should it have jurisdiction, if any?
3. Draw a connection, if possible, between the fight for spectrum space in the early days of radio broadcast and the presence of [cybersquatting](#) today.
4. How could radios be changed or updated to allow for a better exchange of information?