

# AP Computer Science Principles

## Summer Assignment

- Welcome to the AP Computer Science Principles course! AP CSP introduces students to the breadth of the field of computer science. In this course, you will learn to design and evaluate solutions and to apply computer science to solve problems through the development of algorithms and programs. You will incorporate abstraction into programs and use data to discover new knowledge. You will also explain how computing innovations and computing systems, including the Internet, work, explore their potential impacts, and contribute to a computing culture that is collaborative and ethical.
- Your summer assignment consists of two parts. All necessary links are given below and all files are posted on Google Classroom.
- Use your @cmitacademy.org email and join my class using this class code: **vgkel42**
- All work should be completed and submitted to Google Classroom by **Sunday, September 13, 2020 11:59 PM**

### Part I

You will read **Chapter 1** from the book, [Blown to Bits: Your Life, Liberty, and Happiness After the Digital Explosion, by Abelson, Ledeen and Lewis](#) and answer the attached questions.

### Part II

You will read the [AP CSP Course and Exam Description](#) and answer the attached questions.

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**Important notes on written responses:** Technical writing is a large part of AP CSP. I expect all written assignments to be in complete sentences, use correct grammar and use correct punctuation. I also expect well designed, clear, concise answers with supporting details.

**Sample prompt:** “Give at least one specific example of an aspect or experience in your personal life that is related to the chapter.”

**Example of a poor response:** I used search engines all the time.

**Example of an AP level response:** The authors center this chapter on how search engines are manipulated to serve the government and political party’s wishes and ideals. They explain how a Google search for “democracy” yields different results in China versus the United States. Obviously both countries have very different connotations of democracy, and they want people to think the way they do. So, the same Google search alters depending on the zone and country we live in. I personally saw this during my trip to India. In the U.S, I had searched up information about Jayalalitha, an Indian central minister. The readings were generally neutral, exposing the good and bad of her life. However, when I opened the same search in India, almost all of the articles listed were highly biased, exposing only the good in her. Thus, country matters, and I learnt that even Google is subject to political strategies.

# AP CSP - Summer Assignment - Part I

After reading the **Chapter I: Digital Explosion** in the online textbook [Blown to Bits: Your Life, Liberty, and Happiness After the Digital Explosion, by Abelson, Ledeen and Lewis](#), answer the following questions on a Google Docs document. Submit your document to Google Classroom by **Sunday, September 13, 2020 11:59 PM**. (Class Code: **vgkel42**)

1. What happened to Tanya Rider?
2. How can cell phones be used to track your location?
3. What conflicting factors delayed Tanya's rescue?

The authors introduce 7 separate Koans – truths- about digital information technology. Describe what each Koan means AND give a specific example of how each concept relates to you personally.

4. Koan #1: "It's All Just Bits."
5. Koan #2: Perfection is Normal
6. Koan #3: There is Want in the Midst of Plenty
7. Koan #4: Processing is Power
8. Koan #5: More of the Same can be a Whole New Thing
9. Koan #6: Nothing Goes Away
10. Koan #7: Bits Move Faster than Thought
11. Explain Moore's Law in your own words. Is it still relevant?
12. The authors conclude the chapter with the argument that...
  - a. Technology per se is neither good nor bad, and
  - b. New technologies usually mean new opportunities and new challenges.

To illustrate these concepts, research and answer these questions...

13. What was the Arab Spring?
14. Who is Megan Meier?
15. Using the concepts from 12a & 12b above, describe the role that social media played in both the Arab Spring and with Megan Meier.

# AP CSP - Summer Assignment - Part II

After reading the [AP CSP Course and Exam Description](#), answer the following questions on a Google Docs document. Submit your document to Google Classroom by **Sunday, September 13, 2020 11:59 PM**. (Class Code: **vgkel42**)

1. How is the student learning assessed on the AP CSP exam? How many sections are there? Give a brief description of each part and the associated percentage of the overall score that each part represents.
2. Identify AND describe (in your own words) each of the Computational Thinking Practices that we will practice in AP CSP.
3. Identify AND describe (in your own words) the Five Big Ideas of AP CSP.
4. Identify AND describe the commonly used verbs in the AP CSP Performance Task. Give a brief description of each verb.
5. In a certain country, a person must be at least 16 years old to drive a car and must be at least 18 years old to vote. The variable **age** represents the age of a person as an integer. Which of the following expressions evaluates to true if the person is old enough to drive but not old enough to vote, and evaluates to false otherwise?
  - I.  $(\text{age} \geq 16) \text{ AND } (\text{age} \leq 18)$
  - II.  $(\text{age} \geq 16) \text{ AND } (\text{NOT}(\text{age} \geq 18))$
  - III.  $(\text{age} < 18) \text{ AND } (\text{NOT}(\text{age} < 16))$

(A) II only  
(B) I and II only  
(C) I and III only  
(D) II and III only