

AP Computer Science A Summer Assignment

Mr. Harris-White Station High School -Room M110

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The purpose of the AP Computer Science A (AP CS A) summer assignment is to prepare students for the challenges in AP CS A and to ensure the student is aware of the content and commitment level involved in this college level course. Don't worry if you have never programmed. AP CS A will teach you how to code in Java. Please read and complete all steps in this document. The assignment is due by the first day of class.

1. Read Chapter 1: "The Way of the Program" in the free online textbook, "Think Java: How to Think Like a Computer Scientist" by Allen B. Downey and Chris Mayfield. The textbook is located at thinkjava.org and it is version 6.1.3. You can download the textbook as a pdf or read it online.
2. Complete the Summer Assignment Questions (next page). This assignment is due at the beginning of your class period on the first day of school.

Items you will need for this class:

- A USB flash drive (or a cloud drive account) to store your workspace and transfer files between school and home.
- The online course textbook: "Think Java: How to Think Like a Computer Scientist"
- Barron's AP Computer Science (7th edition or newer). This is an optional and supplemental book but will help you significantly in this course and as you prepare for the AP Exam. It usually costs less than \$20 but you may find used copies for less online. Older versions contain "GridWorld", a case study that is no longer a part of the curriculum.
- Access to a computer outside of class about 3 hours per week.
- Dedication and desire to succeed on the AP CS exam in May, 2022.

Over the summer, I usually check emails weekly. If you need anything or have a concern, please email me at harrism@scsk12.org.

<https://apcentral.collegeboard.org/courses/ap-computer-science-a/course>

Have a great summer and I am looking forward to seeing you on August 9, 2021.

AP Computer Science Summer Assignment Questions

Name: _____

Date: _____

After reading Chapter 1: “The Way of the Program” in the online textbook, “Think Java: How to Think Like a Computer Scientist”, answer the following questions.

1. How does thinking like a computer scientist compare to thinking like a mathematician, an engineer, and a scientist?
2. What is the single most important skill for a computer scientist? Explain.
3. Java is an example of a high-level language. What is the difference between a high-level language and a low-level language?
4. List two advantages of programming in a high-level language. List one disadvantage.
5. In Computer Science/Programming, what does portable mean?
6. What is an interpreter?
7. What is a compiler?

8. What language is used in AP Computer Science?
9. What is source code?
10. What is debugging?
11. What symbol is required at the end of every statement?
12. What is the purpose of {} squiggly braces in java?
13. What is the purpose of a comment?
14. What does the compiler do when it sees //, the comment symbol?
15. What are your goals for this course?
16. Tell me something interesting about yourself.