AP Computer Science Principles
Summer Work 2022/23

AP Computer Science Principles helps students develop computational thinking skills vital for success across all disciplines, such as using computational tools to analyze and study data and working with large data sets to analyze, visualize, and draw conclusions from trends. The course engages students in the creative aspects of the field by allowing them to develop computational artifacts based on their interests and program within Python and JavaScript. Your summer work will depend on your current background in Computer Science so when we start the course in the fall, we all are familiar with some basic terminology, ethical issues arising in CS and have some experience in programming prior to starting the course. *It is not essential that you understand all the programming challenges but complete the tutorials to develop an awareness of the process of how programming problems are solved.*

If you are taking **AP Computer Science Principles**, your summer assignments are listed below.
I recommend that you spread out the summer assignments. <u>Please do not try to complete it all in the final week of the summer.</u> 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 accordingly.
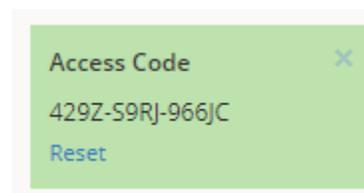
Throughout AP Computer Science Principles, we will learn JavaScript & Python, however if another programming language interests you, such as Scratch, Java or alike, I encourage you to learn that language and complete tutorials to better understand how to create animations, games, etc. At least thirty percent (30%) of the AP Exam consists of creating a program and writing narratives of how it functions, therefore choosing a programming language that interest you is imperative.

1. Schoology & Code.org

   A. Enroll in the Schoology Course using the code to the right (if you have not already been enrolled).

      Create an account with Code.org (http://www.code.org).
      Please utilize your Quaker Valley qvmail.org e-mail account to register.

Access Code	✕
429Z-S9RJ-966JC	
Reset	

   B. Complete the Accelerated Course - Accelerated Intro to Computer Science Course.
      https://studio.code.org/s/20-hour   All coursework needs complete (i.e. Not just clicking bubbles to achieve a 'green' circle and moving forward!). This most likely will take you less than 1 hour even though it says it's a 20 hour course (it's a middle school refresher).

2. SoloLearn AND CodeAcademy

   A. SoloLearn: Navigate to: https://www.sololearn.com/Courses

   Choose ONE COURSE (Python, Java OR JavaScript) from the following courses listed and complete.
   You can download Sololearn's app on your phone, ipad or computer, and begin to learn one of the programming languages listed above. When you complete a course, you will win a **Certificate of Completion** as a trophy.

   B. CodeAcademy: Navigate to: https://www.codecademy.com/learn/learn-python
   Complete Python 2 Lessons 1-12 (Not the Pro portions). <u>Please read all External Resources.</u>
   <u>**THIS WILL TAKE YOU THE MOST TIME ESPECIALLY FOR THOSE WITH NO PROGRAMMING EXPERIENCE.**</u> We are not completing Python 3 or any of the Pro portions of Python 2 so there are approximately 1 or 2 short lessons per unit.

3. For those that do not have a strong background or foundation in computer ethics please read the book, *Blown to Bits*. This book is available for free on the Internet (http://www.bitsbook.com).
   You will be given a short quiz on the first day of class pertaining to this text.

   Note that throughout the year, you will be given quizzes on the vocabulary and other content from the *Blown to bits* book, therefore reading about the concepts of computer science will help strengthen your vocabulary. In addition, your midterm and final, which are administered by the National Science Foundation (College Board), include a significant amount of material (concepts/ethical dilemmas) from this book.

<div align="center">

**Students will be required on the <u>first day of school</u> to login
and show me their completed coursework**
No late work will be accepted.

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**On the first day of school,
you must show completion of the following:**

**A Certificate does not count towards completion
I must be able to see each section completed!**

You must show me each section/stage after you login!

- **Login to Schoology and confirm you responded to discussion board in June (obtained this document and understood the requirements). The access code to Schoology for the course is listed on the previous page.**

- **Login and show Course Completion from CodeAcademy for the completed Python Lessons 1-12.**

- **Login and show Course Completion from SoloLearn for the completed course of your choosing (Python, Javascript or Java).**

- **Login to Code.org and show completion of each level of programming (&/or concept completion) along with course achievement.**

- **Read Blown to Bits book (Short 10 question Quiz on first day of school).**

- **Did you follow all directions as outlined?**

- **You will take a short quiz on the first day of the course in the Fall.**

E-mail me (marianod@qvsd.org) with any questions

**Your Summer Work will count
as your first Exam grade.**