AP Computer Science
Summer Work 2015 - 2016
Mrs. Kaelin
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Welcome future 2015 – 2016 AP Computer Science Students! I am so excited that you have decided to embark on this journey with me. Learning how to code is equivalent to learning a foreign language. It takes dedication and acceptance that you will make mistakes along the way. Traditionally, students with an interest in careers related to: business, engineering, computer science, information technology, bioinformatics, genetics, physics, chemistry, or math should take AP Computer Science. However, in today's world, almost every occupation or endeavor uses some form of computer software including the fine arts. Some knowledge about how software is designed, created, and maintained will provide useful background.

There are two parts to this summer assignment. The first is to ensure that each student has the ability to compile and run code on a computer system at home. We will be doing a lot of coding during the school year in class, but there will be times when it is necessary to do work outside of the computer lab. The second part is to introduce you to the Java programming language. The summer assignment is equivalent to a test grade, so it is extremely important to complete it and turn it in during the first week of school. Summer work that is not completed and turned in will count as a 0%.

By signing below, the student and parents/guardian recognizes that this is a college level course in computer science. AP Computer Science A is a demanding class and success depends on ability, development of prerequisite skills, and a willingness to study. Advanced Placement classes require more study time than the typical high school class and this course runs on an accelerated schedule. The requirements for the AP test are covered prior to the exam that is administered in the first week of May.

_____   _____
              Student Name(printed)   Student Signature

_____
              Parent Signature

ASSIGNMENT #1: You will need to install Java onto a computer at home.

Step 1: Download Java(it needs to be the JDK form). See the attached pages for the instructions.

Step 2: Once Java is installed, screen print the install complete messages for Java JDK (Hit the PrntScrn key then open up a word document and select paste.   This is for windows. On a mac press Apple key ⌘ + Shift + 3). Please attach the screen print to this packet.

ASSIGNMENT #2: You will need to install BlueJ onto a computer at home.

Step 1: Download BlueJ. See the attached pages for the instructions.

Step 2: Once BlueJ is installed, screen print the install complete messages for BlueJ (Hit the PrntScrn key then open up a word document and select paste. This is for windows. On a mac press Apple key ⌘ + Shift + 3). Please attach the screen print to this packet.

ASSIGNMENT #3: Sign up for remind101 messages. See attached instructions.

ASSIGNMENT #4: It is time to start learning some key words used in Java. Do an online search and try to define as many of these words as you can.

Key Vocabulary Words

1. Primitive Data Types
2. Objects
3. Classes
4. Inheritance
5. Methods
6. Subclasses
7. Abstract Classes
8. Interfaces
9. One-dimensional arrays
10. ArayLists
11. Two-dimensional arrays
12. If-else statements
13. For-loop
14. Public
15. Private
16. Static

ASSIGNMENT #5: Visit www.collegeboard.org and find the **AP Computer Science A** home page. Open the course description and read the section on the exam. Answer the attached questions regarding the exam. Please feel free to read any other section of the course description.

ASSIGNMENT #6: In Java, there are two statements used to print output. They are:

1. `System.out.print( );`
2. `System.out.println( );`

The ( ) will eventually be filled in with the output we want Java to give us. Please write each statement 20 times, by hand. It is necessary that you memorize these statements as they will be included in every code that you write. During the first week of school, we will discuss the difference between these two statements.

ASSIGNMENT #7: In Java, any code that is written begins executing at the following statement:

```
public static void main(String [] args) {
```

Please write this statement 20 times, by hand. It is necessary that you memorize this statement as it will be included in every code that you write.

ASSIGNMENT #8:   This is a reading assignment that will introduce you to the Java programming language. It is the first chapter from a free online book, *Think Java: How to Think Like a Computer Scientist*, written by Allen B. Downey. Once you have accessed the book, please click on the section titled *The Way of the Program*. Answer the questions on the attached worksheet.

www.greenteapress.com/thinkapjava/thinkapjava.pdf

ASSIGNMENT #9: Purchase a USB and bring with you on the first day of school.