AP Computer Science A Summer Assignment 2018

The objective of this summer assignment 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.

This summer assignment is equivalent to a test grade, so it is imperative that the work be done and handed in. **There are three parts to the assignment- sign up, program & read.**

Summer assignments that are not completed and turned in by August 17th 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.

A list of those requirements can be found by visiting the College Boards website (http://www.collegeboard.com/student/testing/ap/compsci_a/topic.html?compscia).

_____   _____

Student Name   Date

_____   _____

Student Signature   Parent Signature

Sign Up

1. Please fill out my APCS Student Info Form   https://goo.gl/forms/vctdvy3wDDDkS62F2

2. Sign up for our APCS Remind101
   I will send out reminders over the summer so go ahead & sign up!
   To join text @dyerapcs to 81010 if you prefer email reminders send a blank email to dyerapcs@mail.remind.com
   Parents/guardians are also welcome to sign up – but the APCS students MUST sign up.

Set up & Program

3. Windows Users: Download the latest JAVA Development Kit (JDK) and install it.
   This is to allow you to code.
   (Mac Users have this already – skip this part & move on.)
   http://www.oracle.com/technetwork/java/javase/downloads/index.html

Java SE Downloads

Java Platform (JDK) 10

NetBeans with JDK 8

Java Platform, Standard Edition

Java SE 10.0.1
Java SE 10.0.1 is the latest feature release for the Java SE Platform
Learn more ►

- Installation Instructions
- Release Notes
- Oracle License
- Java SE Licensing Information User Manual
  - Includes Third Party Licenses
- Certified System Configurations
- Readme

JDK
DOWNLOAD ±

Server JRE
DOWNLOAD ±

JRE
DOWNLOAD ±

4. Download the Dr. Java compiler for your machine (Windows jar or Mac jar)
    http://www.drjava.org/

About DrJava

DrJava is a lightweight development environment for writing Java programs. It is designed primarily for students, providing an intuitive interface and the ability to interactively evaluate Java code. It also includes powerful features for more advanced users. DrJava is available for free under the BSD License, and it is under active development by the JavaPLT group at Rice University.

Current Stable Release

The current stable release for DrJava is drjava-beta-20160913-225446. This version supports 7, and 8. You can read the release notes on the SourceForge download page. The Mac OS X app *has been removed; it only worked for Apple Java, which ended with Java 6.* Mac users should download the Jar file, open the Security and Privacy panel in the System Preferences app, and check the box stating that they want to open the DrJava Jar file, even though is was produced a developer unknown to (unregistered with) Apple. Then the Jar file can be run using the Oracle Java 7 or 8 JDK.

Download Jar File

Download Windows App

(more download options)

For Mac Computers you will need to click on **more download options.**

5. Open Dr. Java

    Type the following code

```
/* YOUR NAME HERE
DATE HERE*/

public class HelloWorld {

public static void main(String[] args) {

// Prints "Hello, World" in the terminal window.

System.out.println("Hello, World");
        }
}
```

Edit the Program so that the numbers show.

If you want to see the numbers go to EDIT – Preferences – Show all line numbers
Save your file as **HelloWorld** (it won't work if you save it as something else)
Press the COMPILE button then the RUN button
Save the program as HelloWorld.java on a usb drive and bring it to class or email it to yourself.

6. Using the code from above as a template, write a program, in the simplest way possible, that will output the following. You are allowed no loops when you write the program. Name this file **Stars**

```
*
**
***
****
*****
```

7. Rewrite the program [6] above, but you are limited to the following two output statements. You are only allowed the following two output statements:

```
System.out.print("*");        //usable only once
System.out.println();         //usable only once
```

Your code must use 2 loops and cannot have any other output statements than the two listed above. You can have no more than the two output statements that are shown above. Name this file **StarsLoop**

Read

8. Chortle PART 1 – Chapters 1-4

Start at the beginning and work your way through Chapter 1 – Chapter 4.

You will have a test over Chapters 1-4 on the Friday after we return to school.

http://chortle.ccsu.edu/cs151/cs151java.html

Important things to keep in mind:

1. Syntax is important!!! Java is a case sensitive language, so a variable defined as XXYY is different from XyXy.

2. The // are your way of commenting lines in your programs.   What is another way?

3. Unlike Pascal, Strings use double quotes not single quotes.

4. The braces { and } are the equivalent of begin and end in Pascal.

5. For now, the only changes in code should take place in the area between the two braces shown below.

```
public class SummerAssignmentProgram3

    {

    public SummerAssignmentProgram3()

    {

    //Put Your Code Here! Don't change anything else.

    }

    public static void main(String args[])

    {

    SummerAssignmentProgram3  app=new SummerAssignmentProgram3();

    }

}
```

6. Here is an example of a nested for-loop structure. The word for and int must be all lower case.

```
    int is a variable type and is shorthand for Integer.

    for(int x=0; x< 100; x++)

    {

    for(int y=0;y<100;y++) {

    }

    }
```

7. You will only need semi-colons at the end of your System.out.println() or System.out.print() lines of code.