<center>**Summer Assignment for AP Computer Science**</center>

Fall 2018   **Mr. Hughes**
                                                                                                   Room 302

email: hughes.daniel@north-haven.k12.ct.us
website: nhhscomputerscience.com   APCS is your subsite

Prerequisites: You should have successfully completed Algebra II or CS1 with a B or better to be in this class.
Course Objectives:
At the completion of this course, the student should be able to:
1. Develop solutions to problems in algorithm form
2. Use Java to implement solutions to common computer science problems
3. Understand and evaluate different programming techniques
4. Read, modify, and understand others' programs
5. Prepare for the A-level AP exam in computer science

This course doesn't necessarily move quickly however there is depth in each concept and material may look like we are learning a new language, because we kind of are. Computer Science is very logical and there is always a reason why something is. That's what I love about it. If you attend every class, focus and ask questions, complete assignments in a timely fashion, work hard and persevere through problems, you will find this class very rewarding. It's a great feeling when you work hard at a problem/program and it finally works. The amount of thinking you will do is very beneficial. Your mind will be further sharpened to be a great thinker!

The amount of material we need to master by the May exam requires that you start now in covering the necessary background material. It is expected that you will have a decent understanding of the the material here. Read it, answer the questions to the best of your ability, and come ready to take a **short quiz** as soon as you walk in on the first day.

I have enjoyed teaching this class and it seems most of the students have had a rewarding experience. I am a very approachable teacher and love to help. So please don't hesitate. I do expect my students to be confident in themselves, do their best to stay calm, take a moment to think, and have a cheerful attitude. I will of course do my best to do the same.

Please do the following before our first class:

1. Read Chapter 1 pages 2-45. Be sure you understand the key concepts at the end of the chapter.

If you didn't grab a book yet. You can get scanned pages from my website. nhhscomputerscience.com APCS->Documents & Lessons
                    *Go to***: Summer Assignment/Installing Eclipse->Book Pages**

2. Read the self-review questions on page 47-48. The answers are on pages 53-55.

3.   Write page 50/true/false 1.1 - 1.5, 1.8-1.10

     Write page 51 short answer 1.2, 1.7, 1.8, 1.9

     Check your answers on my school website: nhhscomputerscience.com APCS->Documents & Lessons
        *Go to***: Summer Assignment/Installing Eclipse->Chapter 1 Solutions**

4. Go to the website**:   http://chortle.ccsu.edu/CS151/cs151java.html**

Read through chapter 1 and quiz yourself using the online quiz. Take notes - there is a lot of good information here. BE PREPARED FOR A QUIZ THE FIRST DAY OF CLASS AS SOON AS YOU WALK IN.

5. Purchase or put aside a dedicated USB stick for this class. This is so you can work on projects at home and in school. Put your name on it or as the drive name. We will link both in class and home eclipse workspaces to this USB stick so whatever you save at school will be easily accessible at home. If you are familiar with dropbox or google drive and would like to sync your workspaces that way that would be great too!

6. Set up Eclipse on your computer at home. This is <u>really</u> <u>important</u> as it will prevent you from getting behind during the first weeks of school. <u>Follow the instructions on the attached sheet</u>. Homework to be written in Eclipse will be assigned early in the year so you need to work out all the kinks of your own computer now. There is a video of me installing it but with different versions on website under APCS. However, it is a version from last year. Do the same thing but with the newer version.

7. <u>Type in the program on the attachment under Create First Project</u>. I will be checking this the first day. Compile it and see if you can get it to run and produce the correct results. Don't get frustrated. It will all fall into place and in a month it will be second nature to you.

8. <u>Email me when completed in order to establish a connection between us</u>. Use an email account that you plan to use all year. Don't send me a temporary one! You can say anything you like in the email or ask questions about the class or the assignment.

Do Your Best and email me when you are done with the process to let me know you were successful!

     Mr. Hughes

Installing Java 8 & Eclipse IDE for Java Developers

1. First you will need to download most recent java update. Java is the programming language we are learning. This update will install the proper libraries and packages for us to access.
2. Go here: http://tinyurl.com/javainstall8
3. Scroll down, accept the license agreement and choose the operating system that fits your system. Choose Window x86 for 32-bit or 64-bit windows operating system (you need to figure out which version of windows you have) & MAC OS X x64 for Macintosh users.
   a. If you are having trouble figuring out which type of OS you have. **Google is a powerful tool in the world of computers**! Remember, somebody out there has had the same question as you and most likely has a solution! Ha…..**If you still have trouble, just go with 32-bit for both Java & Eclipse.**
4. Once downloaded. Open the folder it is in and find the exe. Right-click on it and choose "Run As Administrator". Follow the installation steps, clicking next most of the way.
5. You will probably have to reboot. I would anyway.
6. Next, Go to this website: http://www.eclipse.org/downloads/eclipse-packages/
   a. We will be installing eclipse oxygen(4.7.3). It's at the top. "Eclipse IDE for Java Developers"
   b. Choose Windows 32-bit or 64-bit (**It MUST be the same bit version as your java install)**
   c. **Mac users go here: https://www.eclipse.org/downloads/?osType=macosx**
   d. This is our IDE (Integrated Development Environment) or program for developing Java programs
7. Hit the download button on the left (these are different places to download it from).
8. Once downloaded, double click on the file; copy the contents in the eclipse folder to c:\Eclipse folder.
9. Create a shortcut from the eclipse executable in the folder and place it on the desktop.
   a. Right-click on eclipse.exe and go to: send to->desktop (shortcut)

Create First Project

1. Click the eclipse shortcut that you created on your desktop.
   a. It will ask you for a workspace folder.
2. Browse to your usb stick and create a folder called "Java". Use this older as your workspace.
   a. If you want to organize it any other way, go right ahead. This will be the space where all your programming projects are saved to.
3. Once Eclipse opens, ignore any initial messages and click "don't show me this again".
4. Go to: File->New->Java Project
   a. *Project Name*: Hello World
   b. *Use an execution Environment JRE (**should read**):* JavaSE-1.8 or another version of 1.8
5. Click Finish
6. Right-Click on the "Hello World" project folder that should now be to your left.
7. Go To: New->Class.
   a. *Name*: HelloWorld
   b. *Check box*: public static void main(String [] args)
   c. Everything else leave as default.
8. You should now have a HelloWorld.java under the default package.
9. You should have also the HelloWorld.java editor present in the center pane.
10. Delete the \\TODO Auto-generated method stub
11. Replace it with: System.out.print("Hello World");
12. On the menu bar: Go To: Run->Run
    a. check "Always save resourced before launching" then click ok
13. On the bottom pane under the console tab, you should see **Hello World**
    CONGRATULATIONS! You just ran your first java program!!!! An output to the console (user)!!!!