

## AP Computer Science A Summer Work

Summer Enrichment is July 22 - 25th from 12 - 1:30 PM each day. Sign up [here](#). Deadline to register is May 31, 2019.

1. We will be using the jGRASP IDE this year for AP Computer Science A. For a PDF with directions on how to install jGRASP, click [here](#). Please install the 2.0.5\_05 (March 12, 2019) version of jGRASP. If you would like to just use the installer and follow the prompts, click [here](#).
2. In preparation for the AP Computer Science A class, you will be following a series of tutorials through The New Boston website-- Java Beginners tutorial.

<https://cosmolearning.org/courses/beginner-java-programming-tutorials-by-thenewboston/>

There will be a Shared Folder for AP Computer Science A that will have a Summer Work and Submitted Folder. **For each assignment, please create a Google Document, titled FirstInitial LastName and the assignment number and when it is complete, submit it through the submitted work folder.** Before submitting, make sure that all of the information outlined above is included in the document and questions are stated. You will be able to add to these assignments, in the future, as notes and reference documents. **Make sure you save all of the programs you create as separate files, on a flash drive.** I will go over on the first day of school how to upload the files.

2. In addition to the work listed below, please make an account with <https://codehs.com/> using your Hazlet email and password. Under *My Courses*, choose the *AP Computer Science in Java (Mocha)* course and add it to your courses. **Complete the entire Java Basics section of this course.**

**\*\*All work is to be completed by the first day of school.\*\***

I am available at [kpede@hazlet.org](mailto:kpede@hazlet.org), if you have any questions or issues.

Week	Tutorials	Assignments
Week 1-2	4- Hello Youtube 5- Variables 6- Getting User Input	Assignment 1 <ul style="list-style-type: none"><li>● 4: Write an example of a "Hello Youtube" program &amp; the syntax of a class and method in a program. Save the program to a flash drive.</li><li>● 5: Provide variable examples &amp; the differences between <code>System.out.print()</code> and <code>System.out.println()</code> commands. Save the program to a flash drive.</li><li>● 6: How do you get the location of the user information? Save the program to a flash drive.</li><li>● Questions- Ask any questions that you may have or need clarification on. Please make sure if they are about a program that your question is <b>specific</b> and your <b>program is</b></li></ul>

		<b>included.</b>
<b>Week 2-3</b>	7- Building a Basic Calculator 8- Math Operators 9- Increment Operators	<p>Assignment 2</p> <ul style="list-style-type: none"> <li>● 7: Explain the logic behind the calculator program &amp; Submit your working calculator program. Save the program to a flash drive.</li> <li>● 8: List all of the math operators and what they do.</li> <li>● 9: List the incremental operators and what they do.</li> <li>● Include some of your example programs. Save the programs to a flash drive.</li> <li>● Questions- Ask any questions that you may have or need clarification on. Please make sure if they are about a program that your question is <b>specific</b> and your <b>program is included.</b></li> </ul>
<b>Week 4-5</b>	10- If Statement 11- Logical Operators 12- Switch Statement	<p>Assignment 3</p> <ul style="list-style-type: none"> <li>● 10: Explain the syntax of an <i>if statement</i> in Java.</li> <li>● List the relational operators and what they do.</li> <li>● 11: List the logical operators, what they do, and when they are used</li> <li>● 12: Explain the syntax and logic behind a <i>switch statement</i></li> <li>● Questions- Ask any questions that you may have or need clarification on. Please make sure if they are about a program that your question is <b>specific</b> and your <b>program is included.</b></li> </ul>
<b>Week 6-7</b>	13- While loop 14- Using Multiple Classes 15- Use Methods with Parameters 16- Many Methods and Instances	<p>Assignment 4</p> <ul style="list-style-type: none"> <li>● 13: Explain the syntax of a <i>while loop</i> &amp; give an example program. Save the program to a flash drive.</li> <li>● 14: Explain what is necessary for using multiple classes</li> <li>● Provide an example of a program using multiple classes &amp; explain the syntax of calling different classes and methods within classes. Save the program to a flash drive.</li> <li>● 15: Explain an argument and where it belongs</li> <li>● Provide an example program using multiple parameters. Save the program to a flash drive.</li> <li>● 16: Explain how you can prompt users and store information from users in variables, while using multiple classes</li> <li>● Provide an example program. Save the program to a flash drive.</li> <li>● Questions- Ask any questions that you may</li> </ul>

		<p>have or need clarification on. Please make sure if they are about a program that your question is <b>specific</b> and your <b>program is included</b>.</p>
<b>Week 8-9</b>	<p>17- Constructors  18- Nested if Statements  19- Else if Statement  20- Conditional Operators  21- Simple Averaging Program  22- for Loops</p>	<p>Assignment 5</p> <ul style="list-style-type: none"> <li>● 17: Explain the syntax of a constructor and why it is used</li> <li>● 18: Explain where a <i>nested If statement</i> belongs and why it is used</li> <li>● 19: Explain the syntax of an <i>else if statement</i> and why it is used</li> <li>● Provide an example program. Save the program to a flash drive.</li> <li>● 20: Explain what a <i>conditional operator</i>, how a boolean factors into a conditional operator, and the symbols used</li> <li>● Explain how a conditional operator compares to an <i>if/else statement</i></li> <li>● 21: Provide your Averaging Program. Save the program to a flash drive.</li> <li>● 22: Explain the syntax of a for loop. What are the three parts to a for loop condition. How does it work?</li> <li>● Questions- Ask any questions that you may have or need clarification on. Please make sure if they are about a program that your question is <b>specific</b> and your <b>program is included</b>.</li> </ul>