

AP Computer Science A Summer Work

1. 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-thenevboston/>

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 your programs as separate files, on a flash drive.**

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 kgrasso@hazlet.org, if you have any questions or issues.

Week	Tutorials	Assignments
Week 1-2	1- Installing the JDK 2- Running a Java Program 3- Downloading Eclipse 4- Hello Youtube 5- Variables 6- Getting User Input	Assignment 1 <ul style="list-style-type: none"> ● 1-2: State the programs, IDEs, and JDKs you have downloaded ● 3: Explain the steps needed to run a .java program through the command line & the IDE--Eclipse ● 4: Write an example of a "Hello Youtube" program & the syntax of a class and method in a program ● 5: Variable examples & the differences between <i>print</i> commands ● 6: How do you get the location of the user information & Include some of the programs you tried ● Questions- Ask any questions, in comments that you may have or need clarification on. Please make sure if they are about a program that your question is specific and your program is included.
Week 2-3	7- Building a Basic Calculator 8- Math Operators 9- Increment Operators	Assignment 2 <ul style="list-style-type: none"> ● 7: Explain the logic behind the calculator program & Submit your working calculator program ● 8: List all of the math operators and what they signify ● 9: List the incremental operators and what they signify ● Include some of your example programs ● 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 specific and your program is included.
Week 4-5	10- If Statement 11- Logical Operators 12- Switch Statement	Assignment 3 <ul style="list-style-type: none"> ● 10: Explain the syntax of an <i>if statement</i> in Java ● List the relational operators and what they signify

		<ul style="list-style-type: none"> ● 11: List the logical operators, what they signify, and when they are used ● 12: Explain the syntax and logic behind a <i>switch statement</i> ● 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 specific and your program is included.
Week 6-7	13- While loop 14- Using Multiple Classes 15- Use Methods with Parameters 16- Many Methods and Instances	Assignment 4 <ul style="list-style-type: none"> ● 13: Explain the syntax of a <i>while loop</i> & give an example program ● 14: Explain what is necessary for using multiple classes ● Provide an example of a program using multiple classes & explain the syntax of calling different classes and methods within classes ● 15: Explain an argument and where it belongs ● Provide an example program using multiple parameters ● 16: Explain how you can prompt users and store information from users in variables, while using multiple classes ● Provide an example program ● 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 specific and your program is included.
Week 8-9	17- Constructors 18- Nested if Statements 19- Else if Statement 20- Conditional Operators 21- Simple Averaging Program 22- for Loops	Assignment 5 <ul style="list-style-type: none"> ● 17: Explain the syntax of a constructor and why it is used ● 18: Explain where a <i>nested If statement</i> belongs and why it is used ● 19: Explain the syntax of an <i>else if statement</i> and why it is used ● Provide an example program ● 20: Explain what a <i>conditional operator</i>, how a boolean factors into a conditional operator, and the symbols used ● Explain how a conditional operator compares to an <i>if/else statement</i> ● 21: Provide your Averaging Program ● 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 specific and your program is included. ● 22: Explain the syntax of a for loop. What are the three parts to a for loop condition. How does it work?