AP Computer Science A Summer Packet 2022

Welcome to AP Computer Science A! In the coming year, you will be expanding on Java skills that you learned from Computer Science II, and will develop your problem solving and critical thinking skills as well. This is a fun and challenging course and is a great way to get introduced to computer programming.

Your summer work consists of 3 assignments: getting started with an online Udacity lesson, researching some Java vocabulary, and checking out the AP College Board AP Computer Science A website.

Assignment #1:

To get you started on the right foot, you will work through one lesson of a free on-line Java tutorial offered by Udacity.com. For this, you will need a computer with internet access. In this tutorial, there are short videos that you would complete from Lesson 1 to 4. As you watch the video, you will be doing small exercises along with the tutorial.
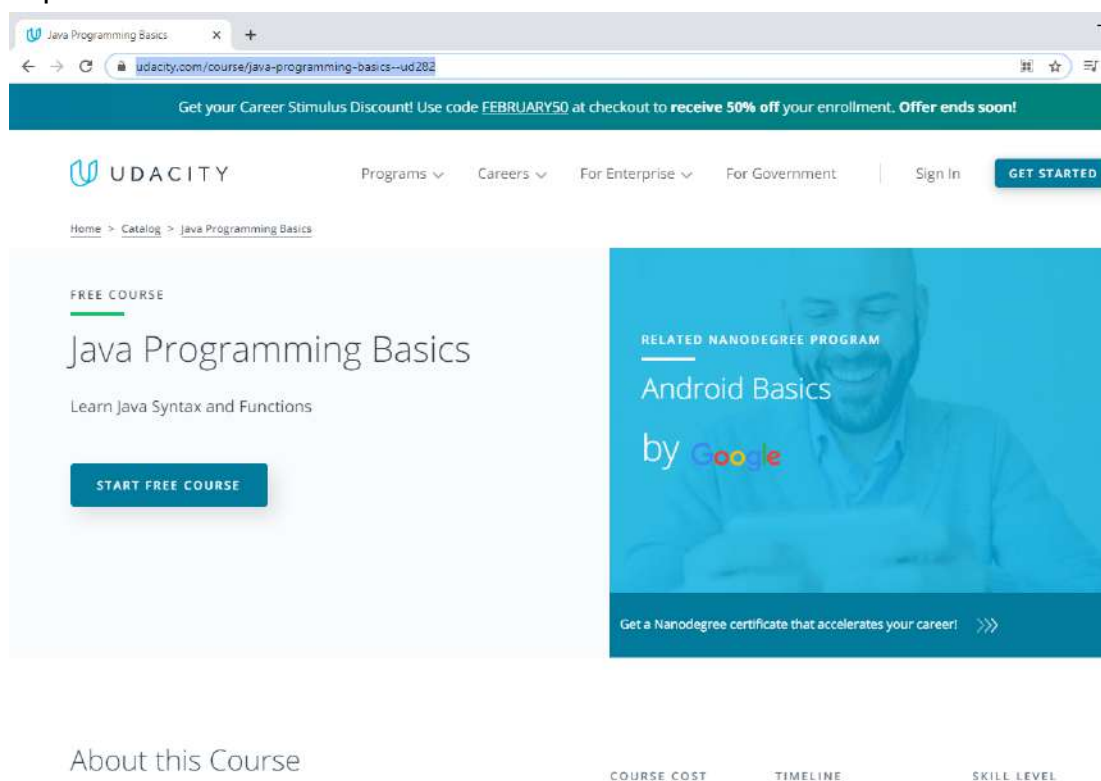
Your progress is tracked as you go. You will need to complete this entire lesson by the first day of school. The more you learn this summer, the lighter your load will be during the school year.

If you have questions or troubles with these tutorials, please contact me,

Mrs. Radhika Vaidyanathan @ vaidyanathan.radhika@rvilleschools.org
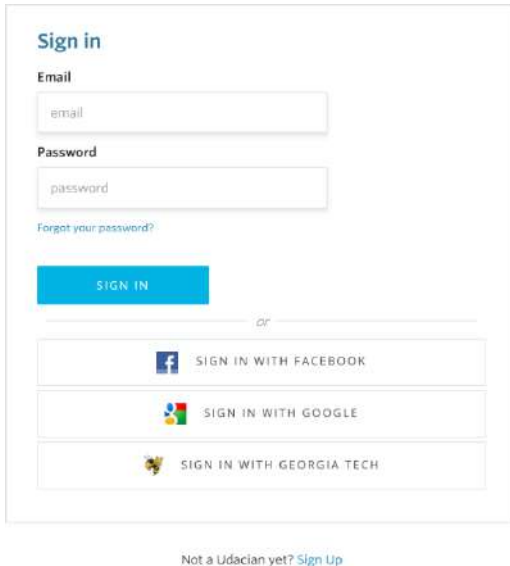
Steps to Get Started:

1. https://www.udacity.com/course/java-programming-basics--ud282 using either Internet Explorer or Chrome.

2. Select "Start Free Course" (blue button)

Notice that by selecting the "Start Free Course" button, you will have access to the instructor videos and exercises, but not some of the other features. This is OK… and it's free.

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4. Get started! You will have videos to watch and practice some exercise problems from Lesson 1 to 4. (You do not have to complete Lesson 5).

5. It will be helpful to have Eclipse installed in your computer at home. We will be using this throughout the course in school and homework will be assigned as well. If your parents control your ability to install things onto your computer, you may need their help.

Assignment #2:

It is time to start learning some key works in Java. Think about what you've learned from the Udacity course and/or do an online search to find definitions for these key Java programming-related vocabulary words (remember the definition may be different or more specific than how the word is used in everyday language).

1. Primitive Data Types
2. Source code
3. Object code / executable
4. Byte code
5. Statement
6. Input
7. Output
8. Debugging
9. Syntax error
10. Run-time error
11. Logic error/semantics
12. Method
13. Class
14. Main method
15. What is a program?
16. What are high level and low-level programming language? Give example for each one.

Assignment #3:

Visit www.collegeboard.org and find the "**AP Computer Science A**" home page. (Do not choose AP Computer Science Principle as this is a different course.) Save this page as a "favorite" for future reference. Make sure that you can log in to the website as well. Save your user name and password as we will be using a lot of collegeboard resources in class. Open the course description and read the section on the exam. Please feel free to read any other section of the course description, but don't feel intimidated! You are just starting to learn this subject, much of the material may not make much sense yet!!

Answer the following questions (look at "The Exam" section):

1. How many multiple-choice questions are there on the APCS exam? How long do you have to complete these questions? So, how much time per question?
2. How many free response questions are there? How long is this section, and how much time do you have per question?
3. What percentage of the test deals with logic? What are the other categories included on the exam?