Future AP Computer Science A Student,

Welcome to AP Computer Science A! I am readily anticipating a great year of Computer Science A. In order to ensure the best start for everyone next year, I have prepared a summer assignment that reviews some basic pre-CSA concepts, as well as vocabulary that you will need to make yourself familiar with.

To complete this assignment, you will need a computer with an internet connection. The assignment is in two parts. One is located on CodeHS and the other is attached to this assignment. Both parts are to be completed by the first day of school, **September 7, 2023,** and will count as two separate grades: **Pre-Unit 1 Questions/Vocabulary - classwork grade (70 points). CodeHS - test grade (100 points).** Late work will lose 10 points per day (from each) that it is not handed in.

I hope you are looking forward to an exciting year of CSA. With plenty of motivation and hard work, you should find AP CSA a successful and rewarding experience. I recommend that you spread out the summer assignment. Please do not try to complete it all in the final week of summer. CSA takes time to process and grasp at a level necessary for success in AP CSA. Remember, AP CSA is a college-level course. Taking a college-level course in high school is difficult, requires dedication, and is a great investment in your education. So prepare yourself and arrive ready to learn.

Any questions contact me via email: dvandenberghe@mppanthers.org

Directions:

- **Part 1: Pre-Unit 1 Questions/Vocabulary List - 70 points**
  - Your Pre-Unit 1 questions and vocabulary (See below) are attached to this assignment. Please also use the google form: https://forms.gle/E8mjGaBJfqfXckrG8 for the multiple-choice questions. You must complete each question and define each word to the best of your ability in relation to computing. You may use the internet to help you with this part of the assignment and you are encouraged to do so. You should also review the Pre-Unit 1 Slides - they will also help you to define many of the vocabulary words. You are not expected to know the answers without some research. You will submit this as a google doc in google classroom attached to the assignment on the first day of school. Please submit the google form for the multiple-choice questions.

- **Part 2: CodeHS Introduction to Programming in Java with Karel the Dog - 100 points**
    - You must complete the "Introduction to Programming in Java with Karel the Dog" course on CodeHS (You do not need to go beyond this)

        To do this, complete the following:

    - Go to https://codehs.com/go/D8B12
      If you do not have an account already - Create a Student Account
        - Create an account using your mppanthers email account
        - The classroom code should already be on the bottom -
    - If you have an account already - sign in - I will have moved you to the correct class. The section code is **D8B12** in case you need it. Any problems email me.
    - After you enter the code or sign up you should see APCSA Summer Assignment 2023-2024 on your dashboard
    - This assignment will be counted as more than completion. Each section has a set of point values that you earn based on completion and correctness. Please do the best you can. Some of the skills may be harder than others. If you need assistance please email me. I will gladly help you.

Vocabulary List - Pre-Unit 1 Vocabulary:

1. Application Program Interface (API)
2. Assembler
3. Assembly language
4. Bit
5. Block
6. Block comment
7. Bus
8. Byte
9. Cable modem
10. Central processing unit (CPU)
11. Class loader
12. Comment
13. Compiler
14. Console
15. Dot pitch
16. DSL (digital subscriber line)
17. Encoding scheme

18. Hardware
19. High-level language
20. Integrated development environment (IDE)
21. Interpreter
22. java command
23. Java Development Toolkit (JDK)
24. Java language specification
25. Java Runtime Environment (JRE)
26. Java Virtual Machine (JVM)
27. javac command
28. Keyword (or reserved word)
29. Library
30. Line comment
31. Logic error
32. Low-level language
33. Machine language
34. main method
35. Memory
36. Modem
37. Motherboard
38. Network interface card (NIC)
39. Operating system (OS)
40. Pixel
41. Programming
42. Runtime error
43. Screen resolution
44. Software
45. Source code
46. Source program
47. Statement
48. Statement terminator
49. Storage devices
50. Syntax error

Pre-Unit 1 Questions - The questions are here. Please put your answers in the google form as well https://forms.gle/E8mjGaBJfqfXckrG8 :

1. The most basic circuitry-level computer language is _____.

   a. C++
   b. Java
   c. High-level language
   d. Machine language

2. Languages that let you use an easily understood vocabulary of descriptive terms, such as read, write, or add, are known as _____languages.

   a. Procedural
   b. Machine
   c. High-level
   d. Object-oriented

3. The rules of a programming language constitute its _____
   a. Syntax
   b. Logic
   c. Format
   d. objects

4. A _____ translates high-level language statements into machine code

   a. Programmer
   b. Syntax detector
   c. Compiler
   d. Decipherer

5. Named computer memory locations are called_____.

   a. Compilers
   b. Variables
   c. Addresses
   d. Appellations

6. The individual operations used in a computer program are often grouped into logical units called _____.

    a. Procedures
    b. Variables
    c. Constants
    d. Logistics

7. Envisioning program components as objects that are similar to concrete objects in the real world is the hallmark of _____.

    a. Command-line operating systems
    b. Procedural programming
    c. Object-oriented programming
    d. Machine languages

8. The value of an object's attributes are known as its _____.

    a. State
    b. Orientation
    c. Methods
    d. Condition

9. An instance of a class is a(n) _____.

    a. Method
    b. Procedure
    c. Object
    d. Case

10. Java is architecturally _____.

    a. Bytecode
    b. Source code
    c. Neutral
    d. Abstract

11. You must compile classes written in Java into _____.

    a. Bytecode
    b. Source code
    c. Javadoc statements
    d. Object code

12. All Java programming statements must end with a _____

    a. Period
    b. Comma
    c. Semicolon
    d. Closing parenthesis

13. Arguments to methods always appear within _____.

    a. Parentheses
    b. Double quotation marks
    c. Single quotation marks
    d. Curly braces

14. In a Java program, you must use _____ to separate classes, objects, and methods.

    a. Commas
    b. Semicolons
    c. Dots
    d. Forward slashes

15. All Java applications must have a method named _____.

    a. method()
    b. main()
    c. java()
    d. Hello()

16. Non Executing programs statements that provide documentation are called _____.

    a. Classes
    b. Naotes
    c. Comments

d. Commands

17. Java supports three types of comments: _____, _____, and javadoc.

    a. Line, block
    b. String, literal
    c. Constant, variable
    d. Single, multiple

18. After you write and save a Java application file, you _____ it.

    a. Interpret and then compile
    b. Interpret and then execute
    c. Compile and then resave
    d. Compile and then interpret

19. The command to execute a compiled Java application is _____.

    a. Run
    b. Execute
    c. Javac
    d. Java

20. You save text files containing Java source code using the file extension_____.
    a. .java
    b. .class
    c. .txt
    d. .src