Summer Work for AP Computer Science Principles (AP CSP)

Here is the summer assignment for AP CSP. Please read carefully and complete before August 17, 2022. This will allow time for me to go through the assignments and see where we are before we start the course. The summer work is 20+ hours so start early! The most important part of the summer work is to dig around and play with the ideas of computers and programming.

The AP CSP Exam has 2 distinct parts. The first part of the exam is like any other AP. It has a written test made up of 70 Multiple Choice questions in the test during AP week. This counts for 60% of your AP score. The second part of the AP Course/Exam is to create a digital portfolio of an App or game that you create. This must include: a video of the artifact (running), answers to questions in a textbox portal. This is 40% of your AP score. Not completing this task or not taking the test can and will effect a change to your official school transcript. The second portion must be submitted directly to The College Board. These will also be graded in class and must be completed to receive credit for the course. The summer assignments will help with all facets of the exam. If you have any questions, please contact me: gillen86@ionaprep.org (I will set up a google meet if you are having trouble with any portion of the assignment).

This email will be checked often during the summer, to ensure I don't miss your email, always put the following in the subject line "AP CSP". DO NOT put this off until August 14th.

Assignments: ALL: Watch these 2 videos. The first shows you some of the most important concepts in computers. If you have any questions, please let me know. There are lots of other videos if you are interested, but this is the required one:

https://youtu.be/LpuPe81bc2w.

After watching the video complete the Binary to Decimal conversion exercise.

Binary	Decimal	Binary	Decimal
1) 1001		12) 1101	
2) 1100101101		13) 1110101001	
3) 10101001		14) 11101011	
4) 100000		15)	33
5) 100001000		16)	393
6) 1010000100		17)	666
7) 10101001		18)	86

8) 1011010111	19)	375
9) 1010101111	20)	679
10) 1101111110100	21)	3573
11) 110110101111	22)	3519

https://www.youtube.com/watch?v=sF2LIJ9t05Q&list=PL-ZKvhlgD8x10DrL--3axHar3W3jyL2A3 &index=2

You don't need to watch the Octal portion of the video. Make sure you understand the Binary, Decimal and Hexadecimal sections of the video. Complete the conversion exercise below.

Decimal	Binary	Hexadecimal
186		
243		
170		
254		
270		
534		
1082		
745		
2775		
255		
213		
129		
66		
2478		

ALL: Complete the first block code lesson and the second lesson is optional.

- 1. <u>https://blockly-games.appspot.com/?lang=en or https://scratch.mit.edu/</u>. After getting comfortable with how block coding works, go to Code.org (Approximately 20 hours) and try: Accelerated Intro to Computer Science.
- 2. <u>https://studio.code.org/s/20-hour</u>, Send copies/ screenshots of assessments and offline projects. (Optional)

ALL: I have provided you with terms you will need to know throughout the course. On our first day back we will take a test using 100 of the terms provided.

Algorithm	Function	Procedure
Append	Function (of an innovation)	Redundancy
Arithmetic operator	Gigabyte	Relational operators
Argument	Heuristic	ROM
ASCII	Hierarchical system	Router
Bandwidth	HTTP	Routing (of Packets)
Binary	HTTPS	Run time error
Binary Search	IDE(Integrated Development Environment)	Search engine
Bit	IETF(International Engineering Task Force)	Search socket layer/ transport layer security (SSL/TLS)
Bitmap graphic	Index	Selection (in an algorithm)
Boolean	Information	Sequence (in algorithm)
Block Base Language	Input	Server
Browser	Instance	Shareware
Byte	Intellectual property	SMTP
Certificate Authorities	Internet	Social Engineering
Circuit	Internet Standard	Social Media
Cleaning Data	Iteration	Software
Cloud computing	IP	Speed
Citizen Science	IP Address	String
Constant	Кеу	Spring concatenation
Client server model	Kilobyte	Substring
Computer Network	Latency	Syntax error
Computing	Linear search	Text based language

Computing Devices	List	TIFF (Tagged Image File Format)
Collaboration	Logical operators	Traversing (a list of array)
Comments	Lossless data compression	True color
Compression ratio	Lossy data compression	URL (uniform resource locator)
Cookies	MAC Address	Variable
CPU	Malware	Voice over internet protocol
Creative Commons	Megabyte	Web Browser
Cryptography	Metadata	WWW
Cyber Attack	MP3	
Cybersecurity	Open access	
Data Abstraction	Open sources	
Database	Operand	
Data mining	Operator	
Data stored in a list	Order of operations	
DDos attack	Output	
Decryption	Overflow	
Development Process	Packets	
Digital Certificate	Parameters	
Digital data	Phishing	
Digital Divide	Procedure	
Documentation	Process	
Email	Program	
Encryption	Program language	
Event	Protocol	
Fault Tolerance	Pseudo code	
Firewall	Public key encryption	

*******Helpful Hint most of the terms can be found in quizlet*****

Good luck - have fun - email me with any questions you may have (dgillenwater@ionaprep.org)

The following is our 2021/22 AP CSP google classroom code. Please sign in to the class and stay tuned for answers to questions and videos I feel will help us in the beginning of the school year.

Google Classroom Code: gplk5ys

Google meet link:

https://meet.google.com/erc-bqvs-eht