Student name: _____

HOMEWORK 1 The due date to submit is on Sunday, September 13

The purpose of this assignment is a basic overview of the textbook's materials, so you will understand the context of the entire course from the start date.

Please use the APA style. Please review the following link:
https://owl.english.purdue.edu/owl/resource/747/13/

	Answer:		Work Cited
1. Why **the Von Neumann model** is essential in understanding computers ? (Chapter 1)			
2. **Numbers:** Please write TWO examples representing the numerical data in any possible base, including binary, hexadecimal and octal, as well as floating point number notations			
3. **Data** - Please describe any TWO examples representing different formats of data used for still images (bitmap versus object images), video, audio and alphanumerical data. (Ch 4 p. 100-135)			

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4. **LMC** - Explain the inner workings of the Little Man Computer and its relation with real life computers, including the basics of assembly instructions. (A three-four sentences answer will suffice) Ch 6—p.178-193			
5. **CPU-memory** – Explain how the CPU and memory communicate. Concept of a register (including MAR/MDR). (A three-four sentences answer will suffice) Ch 7 p. 201			
6. **Fetch-execute** – What is the fetch-execution ? (Ch 7.4 p. 207)			
7. **Stack** - How the stack is permanently used through any subroutine call to better write code? (Ch 7.13 p. 221)			

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8. **I/O** – Please list different types of Input/Output: Programmed I/O vs Interrupts and explain how they each work, as well as their advantages and disadvantages. (Ch 9.3)			
9. **DMA** - How Direct Memory Access works and when it is useful to use it? (Ch 9 p 268)			

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10. **Buses** – Please list the advantages and limitations of different types of buses (serial vs parallel with many examples). Ch 7.5 page 210 11. **Peripherals** - How computer peripherals work, including magnetic disk drives (floppy disks, hard drives), optical disk drives (CD-R, CD-RW, DVDROM, DVD+R, DVD-R, DVD+RW, DVD-RW), displays (CRT and LCD monitors) and laser printers and realize why it is important to limit the number of disk-read phases when writing programs. (Ch 10 p. 297)			