

1. Based on what we covered in class,
 - a. Draw a simplified view of computer
 - b. Programmers want unlimited amounts of memory with low latency (High Speed) , What can be done to achieve that goal ?
 - c. What is the concept of Clocking in computer? Does number of instruction related to the clock ?
 - d. Computers are basically used in three different classes of applications, what are they ? which one of those is more needed in the future ?
 - e. **System Software:** provides services that are commonly used for what?
2. What is a Transistors ?
3. CISC (Complex Instruction Set Computing) and RISC (Reduced Instruction Set Computing). Generally speaking, CISC CPUs have more complex instructions than RISC CPUs and therefore need fewer instructions to perform the same tasks. However, typically one CISC instruction, since it is more complex, takes more time to complete than a RISC instruction. Assume that a certain task needs P CISC instructions and 2P RISC instructions, and that one CISC instruction takes 8T ns to complete, and one RISC instruction takes 2T ns. Under this assumption, which one has the better performance?
4. Using the categories in the list below, classify the following examples. Use the letters to the left of the words in the answer.

- a applications software
- b high-level programming language
- c input device h supercomputer
- d integrated circuit
- e output device
- f personal computer
- g semiconductor
- h supercomputer
- i systems software
- j central processor unit (CPU)
- k desktop or personal computer
- l embedded system
- m server
- n chip
- O compiler
- P instruction set architecture

Examples	categories
Assembler	
C++	
Compiler	
DRAM	
Java	
Scanner	

Microprocessor	
Microsoft Word	
Operating system	
Active part of the computer, following the instructions of the programs to the letter. It adds numbers, tests numbers, controls other components, and so on.	
Computer inside another device used for running one predetermined application or collection of software.	
Computer inside another device used for running one predetermined application or collection of software.	
Computer used for running larger programs for multiple users often simultaneously and typically accessed only by a network.	
Nickname for a die or integrated circuit.	
Program that translates from a higher-level notation to assembly language.	
Specific interface that the hardware provides the low-level software	