

Chapter 1 Homework

Please complete the assignments listed (with modifications as indicated) and **submit your homework via blackboard**. Show your work to get credit.

1. Chapter 1 exercise 1
In what ways are hardware and software different? In what ways are they the same?
2. Chapter 1, exercise 2 – a,b,c,f and g only
 - a) How many milliseconds (ms) are in 1 second?
 - b) How many microseconds (μ s) are in 1 second?
 - c) How many nanoseconds (ns) are in 1 millisecond?
 - f) How many kilobytes (KB) are in 1 gigabyte (GB)?
 - g) How many kilobytes are in 1 megabyte (MB)?
3. Chapter 1, exercise 3
By what order of magnitude is something that runs in nanoseconds faster than something that runs in milliseconds
4. Chapter 1, exercise 8
Briefly explain two breakthroughs in the history of computing
5. Chapter 1, exercise 10
Suppose a transistor on an integrated circuit chip were 2 microns in size. According to Moore's Law, how large would that transistor be in 2 years? How is Moore's law relevant to programmers?
6. Chapter 1, exercise 13
In the von Neumann model, explain the purpose of the:
 - a) processing unit
 - b) program counter