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This homework and its due date are posted on the course website: https://ucsb-cs8.github.io/w20/.
Submit a PDF file of this assignment following the guidelines posted on the website.

h00: Perkovic Ch1 (Introduction to CS)

0. (10 points) Use the provided homework template (without any blank pages), filling out all requested fields, and correctly submitting a legible electronic document on Gradescope before the due date. By submitting this document you agree that this is your own work and that you have read the policies regarding Academic Integrity: https://studentconduct.sa.ucsb.edu/academic-integrity.

1. (5 pts) Section 1.1 talks about different aspects of Computer Science. *According to the author*, is the following statement *True or False*? “Many computing professionals write programs.”
In your own words, *explain why or why not*.

False: I like the screenwriter analogy. Computing professionals do more than write programs, as the word "program" is quite ambiguous. They can develop a myriad of applications for different activities or purposes. There are also computing professionals who actually use the application, dealing with interpersonal problems, such as ensuring the clients' needs are met.

2. (5 pts) Section 1.2 describes Computer Systems in general. List 3 main hardware components of a computer and a brief description of each.

CPU (the central processing unit):
the "brain" of the computer system, where the computation occurs, as it fetches and executes program instructions and data. The CPU grabs data from the RAM and then stores the results of the data back into the RAM.

RAM (random access memory):
the main memory of the computer system. It stores the data and program instructions when the program executes.

The hard drive:
the place that files are stored in. It is much larger that RAM in terms of storage as it holds all of the long-term data. (When the system shuts down, the hard drive will continue to store the data, while the RAM loses all of its data.)

3. (5 pts) According to the author, what does the term “OS” stand for?
Explain in your own words: what are the main functions of the OS?

It stands for "operating system." The OS protects the hardware from user misuse (i.e. any functions forced by the user not within the purpose of the hardware). It also gives application programs an interface in which it can provide services to the programs from hardware devices.

4. (5 pts) In Section 1.2, discussing programming languages, the author explains how the program instructions are represented. Explain in your own words: how does it relate to the creation of programming languages?

Binary notation is the building block of programming languages, as it allows the computer to understand the intent of programming language developers. Without it, developers cannot create other languages, as the computer needs clear instructions without any ambiguity.

5. (5 pts) What is an IDE? Explain in your own words: why is it useful?

IDEs are integrated development environments, which include an editor for writing and editing code, a language translator, automated tools for creating binary executables, and a debugger. All of which help with the process of software development.

6. (5 pts) What are APIs? Explain in your own words: why are they important?

APIs, or application programming intercfaces, are the descriptions for how to use the instructions defined in software libraries. Without them, it would be hard for Python or other sparser languages to access or perform unique or specific actions.