**Problem 1:**

**COP 2271: Introduction to Computation and Programming Assignment #1**

**Possible Points: 20**

Regardless of physical differences, computers can be envisioned as divided into various logical units or sections. Select all three that applies. **(3 points)**

* System Unit  Secondary Storage Unit
* Memory Unit  Computer Unit
* Central Processing Unit  Organization Unit

# Problem 2:

Label the following computer components as input, output, or secondary-storage unit. **(4 points)**

1. Keyboard – input
2. Mouse – input
3. Non-touch Screen Monitor – output
4. Webcam – input
5. Hard Drive – secondary-storage unit
6. Speakers – output
7. Printer – output
8. Microphone – input

# Problem 3:

What are the three general types of programming languages? In your own words, describe each. **(3 points)**

Machine Languages: a language that is used by computers that generally consists of numbers.

Assembly Languages: instead of numbers, these languages use English-like abbreviations that can be easily understood by humans

High-Level Languages: have terms that look very close to English and contain common mathematical expressions.

# Problem 4:

Please indicate whether each of the following statements is true or false. **(5 points)**

[T/F] 1. Software controls hardware.

[T/F] 2. Moore’s Law states that every four to five years, the capacities of computers have approximately doubled inexpensively.

[T/F] 3. Arithmetic Logic Unit is not part of the central processing unit. [T/F] 4. Characters are composed of bits.

[T/F] 5. A gigabyte is approximately one billion bytes.

[T/F] 6. Secondary storage information takes much longer to access than information in primary memory.

[T/F] 7. B+ was an ancestor the C language.

[T/F] 8. Computers can directly understand only its own machine language, defined by its hardware design.

[T/F] 9. Compilers are used to convert assembly-language to machine language.

[T/F] 10. Nonfatal errors allow programs to run to completion, often producing incorrect results.

# Problem 5:

Explain the following terms. **(3 points)**

1. stdin – standard input stream, typically the keyboard
2. stdout – standard output stream, typically the computer screen
3. stderr – standard error stream, connected to the screen and is used to display error messages

# Problem 6:

C programs typically go through six phases to be executed, select the phases in the correct order. **(2 points)**

|  |  |
| --- | --- |
| a) edit, compile, preprocess, link, load, execute | b) edit, preprocess, compile, link, load, execute |
| c) compile, edit, preprocess, load, link,  execute | d) link, preprocess, edit, compile, load,  execute |