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| Instructor |  | Due Date |  |

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| Part | **1** | **2** | **3** | **4** | Total |
| *Maximum Points* | **25** points | **25** points | **25** points | **25** points | **100**G101010 pointsG |
| ***Your Score*** |  |  |  |  |  |

**Textbook Reading Assignment**

Thoroughly read Chapter(s) 1 in your Computer Architecture and Organization textbook.

**Part 1 Glossary Terms - An Introduction to Computer Architecture and Organization**

Define, in detail, each of these glossary terms from the realm of computer architecture and organization, in general. If applicable, use examples to support your definitions. Consult your notes or course textbook(s) as references or the Internet by visiting Web sites such as:

[**http://www.ask.com**](http://www.askjeeves.com) or [**http://www.webopedia.com**](http://www.webopedia.com/)

**(a) Cloud Computing**

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**(b) ENIAC**

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**(c) High - Level Language**

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**(d) nano**

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**(e) Rock’s Law**

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**Part 2 Exercises - An Introduction to Computer Architecture and Organization**

Provide a brief but complete answer for each of these exercises.

**(1)** In what ways are hardware and software different? In what ways are they the same?

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**(2)** By what order of magnitude is something that runs in nanoseconds faster than something that runs in milliseconds?

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**Part 3 Exercises - An Introduction to Computer Architecture and Organization**

**(1)** Suppose you are ready to purchase a new computer for personal use. First, take a look at advertisements from various magazines and newspapers and list terms you do not quite understand. Look these terms up and give a brief written explanation. Decide what factors are important in your decision as to which computer to buy and list them. After you select the system you would like to buy, identify which terms refer to hardware and which refer to software.

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**(2)** 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?

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**Part 4 Exercises - An Introduction to Computer Architecture and Organization**

**(1)** Under the von Neumann architecture, a program and its data are both stored in memory. It is therefore possible for a program, thinking a memory location holds a piece of data when it actually holds a program instruction, to accidentally ( or on purpose ) modify itself.

What implications does this present to you as a programmer?

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**(2)** What are the challenges facing organizations that wish to move to a Cloud platform? What are the risks and benefits?

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