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**Assignment 1**

**Short Answers**

**1. Why is the CPU the most important component in a computer?**

The central processing unit is the most important component in a computer, because it acts as a powerhouse and communicates with every other component in the computer. It is the control and arithmetic logic unit of computers, without it a computer wouldn’t be able to run any software or programs and you would end up with pieces of hardware.

**2. What number does a bit that is turned on represent? What number does a bit that is turned off represent?**

A bit that is turned on is represented by a 1 and a bit that is turned off is represented by a 0.

**4. What are the words that make up a high-level programming language called?**

They are called “Reserved Words” / “Key Words”

**6. What is the difference between a compiler and an interpreter?**

A compiler is used to convert high-level languages into a machine language program. A compiler will scan an entire document and translate it into machine code all at once. An interpreter translates high-level languages into machine code and immediately executes.A translator will scan a document line by line while executing the code.

**7. What type of software controls the internal operations of the computer's hardware?**

The operating system controls the internal operations of a computer’s hardware.

**Exercises**

**3. Use what you’ve learned about the binary numbering system in this chapter to convert the following decimal numbers to binary:**

11: 1011

65: 1000001

100: 1100100

255: 11111111

**4. Use what you’ve learned about the binary numbering system in this chapter to convert the following binary numbers to decimal**

1101: 13

1000: 8

101011: 43

**5. Look at the ASCII chart in Appendix C and determine the codes for each letter of your first name. “John”**

J: 74

o: 111

h: 104

n: 110

**6. Use the internet to research the history of the Python programming language, and answer the following questions:**

* **Who was the creator of Python?** Guido van Rossum
* **When was Python created?** February 20, 1991
* **In the Python programming community, the person who created Python is commonly referred to as the “BDFL.” What does this mean?** “Benevolent Dictator For Life”, a title taken from a Monty Python skit