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# CMSC 115 Reading Guide

Please enter your responses in red.

## Chapter 0

It’s important to learn how to skim a book like this effectively. When I say “skim”, I certainly don’t mean to skip it. You should read the first and last sentence of each paragraph, look for words that are in bold or italics, and make sure you understand any figures or tables in the section.

## Section 0.1 Why Computer Science? Skim

1. What is the main reason they suggest that understanding how computers work is important? The main reason they suggest that understanding how computers work is important is because computers are everywhere, and they are universally applicable.
2. What is computer science beyond merely computer programming? Computer science is beyond merely computer programming because can also involve the theory of computation, computation efficiency, algorithms and data structures, parallel processing, and software engineering.

## Section 0.2 The Difficulty and Promise of … Read

1. In what way is learning to program like learning to understand French poetry? Learning to program is like learning to understand French poetry because you need to first understand syntax and semantics and then learn the rules of the language, because you do not know how computer solve problems.
2. In what way is a running computer program an external manifestation of your thoughts? A running computer program is an external manifestation of your thoughts because they are clear to others and can be repeated and used over again and again. The program is the manifest thought of the programmer.

## Section 0.3 Choosing a Computer Language Skim

1. Why are there so many programming languages? How can you pick the right one for the job? Different programming languages means that different people can better reflect their thoughts based of how they think and need a program to work. There is no right programming language to choose from, all have a compromise to some degree.

## Section 0.4 What is Computation? Re-Read

## Section 0.5 What is a Computer? Re-Read

1. How was the word “computer” originally defined, before about 1950? The term computer was originally defined as people who solved laborious values for mathematical constants, fission reactions, and other mathematical equations.

## Section 0.6 Modern, Electronic Computer Skim

## Section 0.7 High-Level Look at Modern … Read

## Section 0.8 Representing Data Skim

1. Why is binary the preferred way to store data in a computer? Since computers use voltages and switches on the board, binary reflects the off or on state of the transistor on the computer’s board as this is the simplest way to store data in a computer.