Introduction to the Number Base Lesson Unit

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Objective

This unit of study is designed to introduce the novice computer science student to the concept of number bases in general and to the computer number bases 2, 8, and 16 in particular.

Time requirement

It can take anywhere from a few days to a couple of weeks depending upon the level of student.

Counting, Place Value

It introduces the basic idea of counting in different bases and the place value system, associating it with the familiar base 10 system.

Twelve Conversions

It also teaches the twelve conversion techniques among the four bases (2,8,10, and 16)

Simple Operations, Equations

It also teaches addition and subtraction in these bases.

Finally it introduces solving simple equations involving these bases.

Example and exercises

Many examples are given as well as exercises provided.

Some answers are given outright, and some are given in a jumbled answer bank.

Sequence

Here is the lesson sequence:

1. Lesson 1 – on counting basics, conversion from base 10 to binary, octal, and hexadecimal (exercises included)
2. Lesson 2 – on the nine remaining conversions
3. Number Exercises – for lesson 2
4. Addition (exercises included)
5. Subtraction and Equations (exercises included)

Thank you

Thanks for using the unit. I hope it is helpful.

You may contact me, John Owen, at:
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Or view more lessons on my website:
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