Digital Design Chapter 1 Practice Problems | CSCI 160 Fall 2025

Topics:

- Converting from base 10 to another base (Textbook sections 1.2 and 1.3)
- Converting to base 10 from another base (Textbook sections 1.2 and 1.3)
- Converting from hexadecimal to binary and vice versa (Textbook section 1.4)
- Converting from octal to binary and vice versa (Textbook section 1.4)
- Getting the one's complement of a binary number (Textbook section 1.5)
- Getting the two's complement of a binary number (Textbook section 1.5)
- Signed vs unsigned numbers (Textbook section 1.6)
- Different representations for signed binary numbers (Textbook section 1.6)
- Given a binary number, determine its value in BCD and excess-3 code (Textbook section 1.7)

Exercises:

—Converting Bases—
1.3 a-d
1.7
1.8
1.9 a-e

—1’s and 2’s Compliment—
1.14 a-e
1.18 a-d

— 9’s and 10’s Compliment—
1.15 a-d
1.17 a-d

—BCD, Excess 3 Code —
1.25 a, b (opt: c, d)
1.33 a, b (opt: c, *d)
* binary

——Logic Gates (Opt) ——
1.35
1.36