#2 CS/SE 2340 Assignment
FALL SEMESTER 2025, Sections 002, 004, 006, 501

INSTRUCTOR: DR. ALICE WANG

Answers to the questions should be in a PDF document.

Note: name your PDF files for homework submission as follows:

<hw#>_<FirstName>_<LastName>.zip, e.g. HW02_Jane_Doe.PDF

For assignments of this class you can submit your work unlimited times, the last submission will be graded.

Goal: The goal of this assignment is to practice conversions with different Number systems and Signed Representation

Number Systems and Signed Numbers (10pts each)

To get full credit for all conversions, show your work. That means successive division when converting to binary or hexadecimal. When converting to decimal, show all of the math.

a) Convert 57 to 6-bit binary

b) Convert -7098 to 16-bit Two's Complement hexadecimal

c) Convert Unsigned 0b110_1000 to decimal

d) Convert 9-bit Signed Magnitude 0x1B7 to decimal

e) Convert Signed Magnitude 0b0110_0011_1000 to decimal

f) Convert 8-bit Two's Complement 0x89 to decimal

g) Convert Two's Complement 0b1010_0110 to decimal

h) Add 12-bit Two's Complement numbers 0x4A0 and 0b1001_0000_1111

---

i) Perform this 8-bit Two's Complement subtraction 0b0111_1000 - 0x67

j) Take the Two's Complement of 0b1010_1111_0010