Homework Assignment 01:

1. Find the binary expansions of decimal numbers: 100, 151, 201, 254
2. Find the decimal expansions of binary numbers: 111101111, 10100100101
4. Explain why the negation algorithm (in Two's-Complement) works.
5. Give the negation algorithm for One's-Complement.
6. Compute 123+111 in 8-bit unsigned binary.
8. Give the range of integers x in 8-bit Two's-Complement for which x+123 would overflow.
9. What are the advantages of Two's-Complement number system against One's-Complement and Sign-Magnitude?
10. The binary number system has 2 symbols: 0 and 1. The unary number system has only one symbol, let's call it x. Express the following decimal integers in Unary: 0, 1, 7, 13.

Homework Assignments are due 5pm on Wednesdays.