

ECE-223, Assignment #1

Chapter 1, Digital Design, M. Mano, 3rd Edition

1.4) Convert the following numbers with the indicated bases to decimal: $(4310)_5$, and $(198)_{12}$.

1.7) Express the following numbers in decimal: $(10110.0101)_2$, $(16.5)_{16}$, and $(26.24)_8$

1.8) Convert the following numbers to hexadecimal and to decimal

a) 1.11010

b) 1110.10

Explain why the decimal answer in (b) is 8 times that of (a).

1.9) Convert the hexadecimal number 68BE to binary and then from binary convert it to octal.

1.10) Convert the decimal number 345 to binary in two ways: (a) convert directly to binary; (b) convert first to hexadecimal, then from hexadecimal to binary, Which method is faster?

1.16) Obtain the 1's and 2's complements of the following binary numbers:

a) 11101010

b) 01111110

c) 00000001

d) 10000000

e) 00000000

1.18) Perform subtraction on the following unsigned binary number using 2's-complement of the subtrahend. Where the result should be negative, 2's complement it and affix a minus sign.

a) 11011 – 11001

b) 110100 – 10101

c) 1011 – 110000

d) 101010 – 101011

1.24) Represent decimal number 6027 in (a) BCD (b) excess-3 code, (c) 2421 code.