ENEE 244: Homework 1
Due Date Sept 18th in Your Recitation
Please indicate your name id and recitation number on your submission

1) Perform the following additions in the binary system
   a. 11101 + 1100
   b. 10101 + 0011
   c. 111.1101 + 1.1
   d. 1010.0011 + 1.01

2) Perform the following subtraction
   a. 11101 – 010
   b. 1010 – 11.01
   c. 101.01 – 10.1
   d. 1000001 – 0.000001

3) Convert the following decimal numbers into binary and then multiply them together. Illustrate the steps
   a. 163 and 220
   b. 32 and 16

4) Problem 2.22 a,b,c,d from the book

5) Show that the 2’s complement of the 2’s complement of a binary number is the number itself

6) Convert the following decimal numbers into binary and subtract them using 2’s complement. Show the working
   a. 23 and 26
   b. 62 and 47

7) Let us suppose we have a machine with only adders and inverters (you can assume that you have infinite availability). Describe the sequence of steps one would use to perform 01101 – 00001