Homework 3
EET 340
Introduction to Computer Organization and Architecture

INSTRUCTIONS: Show the detailed steps of your calculation. The homework solution can either be typed in word or handwritten. However, convert the word or scanned (handwritten) documents to PDF and submit to blackboard.

1. Discuss binary addition, subtraction and multiplication with an example for each. (10 Points)

2. Convert following floating-point values to IEEE-754 **single** format. Convert the result in hexadecimal and show all the steps of calculation. (15 Points)

   a. 0.3125

   b. – 8.5

3. Convert following IEEE-754 Single precision format to floating point values. (15 Points)

   a. 0x40001000

   b. 0xC0200000

4. Convert following floating-point values to IEEE-754 d**ouble** precision format. Convert the result in hexadecimal and show all the steps of calculation. (15 Points)

   a. 0.3125

   b. – 8.5

5. Convert following IEEE-754 double precision format to floating point values (15 points)

   a. 0xC028000000000000

   b. 0x3FE2000000000000

6. Perform each of the following computation and convert the resulting floating-point values to IEEE-754 single precision format. Write your converted result in hexadecimal format: (30 Points)

   a. 6.75 + 0.625 =

   b. – 7.25 * 6.5 =