COE 301/ICS 233, Term 172

Computer Architecture & Assembly Language
Quiz# 5

Date: Tuesday, March 20, 2018

1. [3 Points] What is the decimal value of following single precision float:

    [1, 0111 1000, 0111 0000 0000 0000 0000 000]

2. [4 Points] Find the normalized single precision representation of –21.625.

3. [2 Points] Find the smallest positive normalized float for single precision.

4. [3 Points] Give the representation of Zero, -infinity, and NAN for single precision:

    Zero: [_ , _____ , _____]

    -infinity: [_ , _____ , _____]

     NAN: [_ , _____ , _____]

5. [6 Points] Find the normalized <u>difference</u> between A and B by using rounding to nearest even. Perform the operation using **guard**, **round** and **sticky** bits

$A = + 1.0000001000011111000000 1 \times 2^4$
$B = +1.0000111110000001010000 0 \times 2^{-3}$