Name: Id#

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]

1. [4 Points] Find the normalized single precision representation of –21.625.
2. [2 Points] Find the smallest positive normalized float for single precision.
3. [3 Points] Give the representation of Zero, -infinity, and NAN for single precision:

Zero: [ \_ , \_\_\_\_\_\_\_\_\_ , \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_]

-infinity: [ \_ , \_\_\_\_\_\_\_\_\_ , \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_]

 NAN: [ \_ , \_\_\_\_\_\_\_\_\_ , \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_]

1. [6 Points] Find the normalized difference between A and B by using rounding to nearest even. Perform the operation using **guard**, **round** and **sticky** bits

A= + 1.00000010000111110000001 × 24

B = +1.00001111100000010100000 × 2-3