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COE 200, Term 993
Fundamentals of Computer Engineering

Quiz# 1

Date: Sunday, June 18

Q1. Represent the following numbers in binary and hexadecimal. Use as many bits as needed, and approximate the fraction to 3 digits:

a. $(250.375)_{10}$

b. $(11.2)_3$

Q2. Determine the value of a 3-digit number in base $2R$, i.e. $(d_2d_1d_0)_{2R}$ that is equivalent to the 3-digit number $(421)_R$ in base R .

Q3. Consider the following two numbers $A=-100$ and $B=-125$:

a. Express the two numbers in 1's complement and 2's complement notations, assuming 8-bit representation.

b. Perform the operation $A-B$ two times, once using 1's complement notation and once using 2's complement notation.

c. Determine, in binary and decimal, the smallest (negative) number and the largest (positive) number that can be stored using the 2's complement notation, assuming 6-bit representation.