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COMP 273 Assignment 1

a)

$92A5F_{16}$ to decimal and binary

$9 \times 16^4 + 2 \times 16^3 + A \times 16^2 + 5 \times 16^1 + F \times 16^0$

$589824 + 8192 + 2560 + 80 + 15$

$= 600671_{10}$

$((9)_{16} = 1001), ((2)_{16} = 0010), ((A)_{16} = 1010), ((5)_{16} = 0101), ((F)_{16} = 1111)$

$= 1001\ 0010\ 1010\ 0101\ 1111_{2}$

$1000\ 1011\ 0101_{2}$ to decimal and hex

$1 \times 2^{11} + 1 \times 2^7 + 1 \times 2^5 + 1 \times 2^4 + 1 \times 2^2 + 1 \times 2^0$

$2048 + 128 + 32 + 16 + 4 + 1$

$= 2229_{10}$

$1000_2 = (8)_{16},\ 1011_2 = (B)_{16},\ 0101_2 = (5)_{16}$

$= 8B5_{16}$

339_{10} to binary and hex

339 mod2 = 1, 169 mod2 = 1, 84 mod2 = 0, 42 mod2 = 0, 21 mod2 = 1, 10 mod2 = 0, 5 mod2 = 1, 2 mod2 = 0, 1 mod2 = 1.

$= 101010011_{2}$

339 mod 16 = 3, 21 mod 16 = 5, 1 mod 16 = 1

$= 153_{16}$

b)

ADDRESS 32 bit	DATA
0000 0001 0001 1010	0000 0000
0000 0001 0001 1001	0111 1001
0000 0001 0001 1000	0111 0010
0000 0001 0001 0111	0110 0001
0000 0001 0001 0101	0100 1101
0000 0001 0001 0100	0010 0000
0000 0001 0001 0011	0110 1101
0000 0001 0001 0010	0110 0001
0000 0001 0001 0001	0010 0000
0000 0001 0001 0000	0100 1001