UVa Email ID (no aliases please): **jz5pt**

Name **John Zheng** **Lab section** **5 pm**

Lab 4 - Radix Conversion Worksheet

Convert:

1. 0x4F45 into octal

$0x4F45_{16}$ = 5*16^0 + 4 * 16^1 + 15 * 16^2 + 4 * 16^3 = 20293_{10}
20293 / 8 = 2536 r5
2536 / 8 = 317 r0
317 / 8 = 39 r5
39 / 8 = 4 r7
4 / 8 = 0 r4
20293_{10} = 47505_{8}

2. 269_{10} into radix 7

269 / 7 = 38 r3
38 / 7 = 5 r3
5 / 7 = 0 r5
269_{10} = 533_{7}

3. 110011011110_2 into decimal

2^1 + 2^2 + 2^3 + 2^4 + 2^6 + 2^7 + 2^10 + 2^11 = 3294_{10}

4. $2BD_{19}$ into decimal

13 * 19^0 + 11 * 19^1 + 2 * 19^2 = 944_{10}

5. Given the following positive binary integer in two's complement: 0101001101011101

    a) Convert the number to hexadecimal:

0101 0011 0101 1101 = 0x535D

b) Negate the number.

~(0101001101011101) = 1010110010100010
1010110010100010 + 1 = 1010110010100011