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Lab 4 - Radix Conversion Worksheet

Convert:

1. 0x4F45   into octal

    $4f45_{16}$ = 0100 1111 0100 0101_2

    0 100 111 101 000 101_2 = 047505_8

2. 269_{10} into radix 7

    269/7   =   38   remainder: 3
    38/7   =   5   remainder: 3
    5/7   =   0   remainder: 5

    269_{10} = 533_7

3. 110011011110_2 into decimal

    1100 1101 1110_2 = 2^{11} + 2^{10} + 2^7 + 2^6 + 2^4 + 2^3 + 2^2 + 2^1
    =   2048 + 1024 + 128 + 64 + 16 + 8 + 4 + 2 = 3294

    110011011110_2 = 3294_{10}

4. $2BD_{19}$ into decimal

    $2BD_{19}$ = $2(19^2)$ + $11(19^1)$ + $13(19^0)$ = 944_{10}

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

    a) Convert the number to hexadecimal:

        0101 0011 0101 1101
        5   3   5   D   =   0x535D

    b) Negate the number.

Flip the bits and add one
0101001101011101

1010110010100010 + 1 = 1010110010100011