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Lab section: 101 (8am)

Lab 4 - Radix Conversion Worksheet

Convert:

1. 0x4F45 into octal = **47505_8**
   $(4 * 16^3) + (15 * 16^2) + (4 * 16^1) + (5 * 16^0) = 20293_{10}$
   20293/8 = 2536 (remainder: 5)
   2536/8 = 317 (remainder: 0)
   317/8 = 39 (remainder: 5)
   39/8 = 4 (remainder: 7)
   4/8 = 0 (remainder: 4)

2. 269_{10} into radix 7 = **533_7**
   269/7 = 38 (remainder: 3)
   38/7 = 5 (remainder: 3)
   5/7 = 0 (remainder: 5)

3. 110011011110_2 into decimal = **3294_{10}**
   2048 + 1024 + 128 + 64 + 16 + 8 + 4 + 2

4. $2BD_{19}$ into decimal = **944_{10}**
   $(2 * 19^2) + (11 * 19^1) + (13 * 19^0)$

5. Given the following positive binary integer in two's complement:
   0101 0011 0101 1101

   a) Convert the number to hexadecimal:
      0101 = 5
      0011 = 3
      0101 = 5
      1101 = d
      0x535d

   b) Negate the number.
      one's complement: 1010 1100 1010 0010 + 1
      1010 1100 1010 0011
      1010 = a
      1100 = c
      1010 = a
      0011 = 3
      0xaca3