UVa Email ID (no aliases please): jhf5my

Name: John Fishbein Lab section: 106 (5-615pm)

Lab 4 - Radix Conversion Worksheet

Convert:

1. 0x4F45 **into octal = 47505_8**
   - convert each hex digit into 4 binary digits = 0 100 111 101 000 101
   -convert every 3 binary digits into 1 octal digit = 47505

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

3. $1100\ 1101\ 1110_2$ **into decimal = 3294_{10}**
   - 0*2^0 + 1*2^1 + 1*2^2 + 1*2^3 + 1*2^4 + 0*2^5 + 1*2^6 + 1*2^7 + 0*2^8 + 0*2^9 + 1*2^10 + 1*2^11 = 3294

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

5. Given the following positive binary integer in two's complement:
   $0101\ 0011\ 0101\ 1101_2$

   a) Convert the number to hexadecimal: **0x535D**
      -convert every 4 binary digits into 1 hex = 0x535D

   b) Negate the number: **$1010\ 1100\ 1010\ 0011_2$ or 0xACA3**
      - flip each binary digit and then add 1 - 1010 1100 1010 0011