

CSCI 4591: Computer Architecture

HW Assignment # 2 Due

Date: January 31, 2021 @ 11:55 PM

- 1) Perform the following unsigned conversions:
 - 1) 175_{10} to Base 2 = 10101111
 - 2) $24FA_{16}$ to Base 10 = 9466
 - 3) $1011\ 1011_2$ (unsigned number) to Base 10 = 187
- 2) Perform the following signed conversion:
 - 1) -584_{10} to Base 2 = -1001001000
 - 2) -22_{10} to Base 16 = -16
- 3) What is the hexadecimal representation of the following binary numbers?
 - 1) 0110 1110 1100 = 6EC
 - 2) 100 1010 0011 = ? A3 \rightarrow 0100 1010 0011 = -4A3
 - 3) 1001 1101 1011 = -9DB
- 4) What is the 2's complement representation of the following signed decimal numbers?
 - 1) -24 = binary = -11000 = -01000 -(01000)
 - 2) -321 = binary = 1010 0000 1 = -(0101 1111 1)
 - 3) -462 = binary = 1110 0111 0 = -(0001 1001 0)
- 5) What is the decimal representation of each of the following signed binary numbers.
 - 1) 1000 0000 = -128
 - 2) 1100 1100 = -52
 - 3) 0010 1011 = 43
- 6) The following hexadecimal numbers represent signed integers. Convert each to decimal.
 - 1) 6AE8 = 27368
 - 2) D123 = -53539
 - 3) 9A12 = -39442

7) What is the hexadecimal representation of the following signed decimal numbers?

1) $-732 = -2DC$

2) $-167 = -A7$

3) $-2952 = -B88$

8) What is the sum of the following signed hexadecimal pairs? After doing the math, convert the solution to signed decimal.

1) $6B4 + 3FE = AB2 = -2738$

2) $B7C + 321 = E9D = -3741$