

CSE/EEE230 Spring 2020
Assignment 1

Part 1: Unsigned data: Convert each as indicated. You do not need to show your work.
If the answer must be a byte, then it must be the correct size.

1. Hexadecimal to binary (1 byte)
 - a. 0x3E
a. 00111110
 - b. 0x87
a. 10000111
2. Binary to hexadecimal
 - a. 10010101
a. 0x95
 - b. 01011011
a. 0x5B
3. Binary to decimal (unsigned)
 - a. 00110101
a. 53
 - b. 00101111
a. 47
4. Hexadecimal to decimal (unsigned)
 - a. 0x3E
a. 62
 - b. 0x2B
a. 43
5. Decimal to binary (as 1 byte)
 - a. 37
a. 00100101
 - b. 61
a. 00111101
6. Decimal to hexadecimal (as 1 byte)
 - a. 37
a. 0x25
 - b. 61
a. 3D

Part 2: Signed values: Convert each as indicated. You do not need to show your work.
If the answer must be a byte, then it must be the correct size.

7. Decimal to Hexadecimal (1 byte, signed magnitude)

- a. -19
 - a. 0x-13 (00010011)
 - b. -38
 - a. 0x-26 (00100110)
8. Decimal to Hexadecimal (1 byte, one's complement)
- a. -19
 - a. 0xEC (11101100)
 - b. -38
 - a. 0xD9 (11011001)
9. Decimal to Hexadecimal (1 byte, two's complement)
- a. -19
 - a. 0xED (11101101)
 - b. -38
 - a. 0xDA (11011010)

10. Hexadecimal to decimal (signed magnitude)

- a. 0x86
 - a. -122
- b. 0xE9
 - a. -23

11. Hexadecimal to decimal (1's complement)

- a. 0x86
 - a. 121 (01111001)
- b. 0xE9
 - a. 22 (00010110)

12. Hexadecimal to decimal (2's complement)

- a. 0x86
 - a. 122 (01111010)
- b. 0xE9
 - a. 23 (00010111)
- c. 0x14
 - a. -20 (11101100)