CSE/EEE230 Spring 2020

Assignment 1

Part 1: Unsigned data:

1. Hexadecimal to binary (1 byte)

a. 0x3E **= 00111110**

b. 0x87 = **10000111**

2. Binary to hexadecimal

a. 10010101 = **0x95**

b. 01011011 = **0x5B**

3. Binary to decimal (unsigned)

a. 00110101 = **53**

b. 00101111 = **47**

4. Hexadecimal to decimal (unsigned)

a. 0x3E = **62**

b. 0x2B = **43**

5. Decimal to binary (as 1 byte)

a. 37 = **00100101**

b. 61 = **00111101**

6. Decimal to hexadecimal (as 1 byte)

a. 37 = **0x25**

b. 61 = **0x3D**

Part 2: Signed values:

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

a. -19 = **0x93**

b. -38 = **0xA6**

8. Decimal to Hexadecimal (1 byte, one’s complement)

a. -19 = **0xEC**

b. -38 = **0xD9**

9. Decimal to Hexadecimal (1 byte, two’s complement)

a. -19= **0xED**

b. -38= **0xDA**

10. Hexadecimal to decimal (signed magnitude)

a. 0x86= **-6**

b. 0xE9= **-105**

11. Hexadecimal to decimal (1’s complement)

a. 0x86= **-121**

b. 0xE9= **-22**

12. Hexadecimal to decimal (2’s complement)

a. 0x86= **-122**

b. 0xE9= **-23**

c. 0x14= **-236**