**COMP 2401 – Assignment #3**

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101007288

1. 1. 1101 0101 =

27 + 26 + 24 + 22 + 20 =

128 + 64 + 16 + 4 + 1 = 213

* 1. 1101 0101 =

0010 1010 + 1 =

0010 1011 =

25 + 23 + 21 + 20 =

32 + 8 + 2 + 1 = -43

1. 1. -342.265625 =

28 + 26 + 24 + 22 + 21 + 2-2 + 2-6 =

-101010110.010001 =

-1.01010110010001 x 28

Sign bit = 1

e = 8 + 127 = 135 = 27 + 22 + 21 + 20 = 1000 0111

f = 01010110010001

1 10000111 01010110010001000000000

* 1. 1 01111100 00110000000000000000000

Sign bit = 1

e = 0111 1100 = 26 + 25 + 24 + 23 + 22 = 124 – 127 = -3

f = 1.0011 x 2-3 = 0.0010011

2-3 + 2-6 + 2-7 = 0.1484375

-0.1484375

1. x = 0xa3 y = 0x0b
   1. 10\*161 + 3\*160 = 160 + 3 = 163

163 – 128 – 32 – 2 – 1 = 0

27 + 25 + 21 + 20

**1**010 0011

char not unsigned char so…

0101 1100 + 1 = 0101 1101

26 + 24 + 23 + 22 + 20 =

64 + 16 + 8 + 4 + 1 = 93

x = -93

* 1. 0\*161 + 11\*160 = 0 + 11 = 11

11 – 8 – 2 – 1 = 0

23 + 21 + 20

0000 1011

* 1. 1010 0011 (x)

& 0000 1011 (y)

0000 0011

21 + 20 = 2 + 1 = 3

x & y = 3

* 1. 1010 0011 (x)

| 0000 1011 (y)

**1**010 1011

0101 0100 + 1 = 0101 0101

26 + 24 + 22 + 20 =

64 + 16 + 4 + 1 = 85

x | y = -85

* 1. 0000 1011 << 3 =

0101 1000

26 + 24 + 23 = 64 + 16 + 8 = 88

y << 3 = 88

* 1. 1010 0011 >> 1

**1**101 0001

0010 1110 + 1 = 0010 1111

25 + 23 + 22 + 21 + 20 =

32 + 8 + 4 + 2 + 1 = 47

x >> 1 = -47