Homework 2 CS 2430 – Ryan Finazzo

Problem 2

NOTE: FYI I did my work on paper, this is the work transferred onto a Word doc

1. Answer: 0011011111110101

14325/2 = 7162 R 1

7162/2 = 3581 R 0

3581/2 = 1790 R 1

1790/2 = 895 R 0

895/2 = 447 R 1

447/2 = 223 R 1

223/2 = 111 R 1

111/2 = 55 R 1

55/2 = 27 R 1

13/2 = 6 R 1

6/2 = 3 R 0

3/2 = 1 R 1

½ = 0 R 1

0 (Filler)

0 Identifier

1. Answer
   1. 8 Bit binary: 10111010
   2. 8 bit hexa: BA
   3. 16 bit binary: 1000000000111010
   4. 16 bit hexa: 803A

To find the binary value of -58 I used the same method as above

8 bit hexa:

10111010 (Split by into 2) = 11 + 10 Which translates to BA

16 bit hexa:

100000000111010 (Split into 4) = 8 + 0 + 3 + A Which translates to 803A

1. Answer:
   1. 10011001 - Overflow
   2. 11011001 – Underflow
   3. 01110100
   4. 10010110 – Overflow