Computer Architecture

Homework 2

Due: February 11, 2008

1. Show the representation of 154 as an 8-bit unsigned integer.

2. Show the representation of -18 as an 8-bit signed-magnitude signed integer.

3. Show the representation of -75 as an 8-bit two's complement signed integer.

4. What is the value of 10101101 when interpreted as (a) an unsigned integer, (b) a signed-magnitude signed integer, and (c) a two's complement signed integer?

5. Show the addition of 10010011 and 11111001 in binary. Does overflow occur if (a) the the numbers are interpreted as an unsigned integers, or (b) if they are interpreted as two's complement signed integers?

6. Show the multiplication in binary of unsigned integers 1001 and 1101.