CS 354 - FALL 1994
Assignment 3

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Due at the beginning of class on 26 Sep 1994

1 Problem 1

- (15 points, 1point each entry) Fill in the missing entries in the following table. All entries within a line represent the same value.

binary	octal	hexadecimal	decimal
11000			
	625		
		625	
		4ae	
			241

2 Problem 2

- (9 points) Give the base 2, base 3 and base 4 representations for the decimal number 25.8. Calculate the first four digits beyond the radix point.

3 Problem 3

- (6 points, 2 each part) Find the additive inverse of the following 8-bit values, presuming the indicated representation. :
  - a) 00110011 (two's complement)
  - b) 11001100 (sign magnitude)
  - c) 11110000 (one's complement)

4 Problem 4

- (20 points, 1 point each entry) Fill in the missing entries in the following table. All entries within a line represent the same value. Make each entry an 8-bit representation. If an entry cannot be represented in eight bits, write a '*' for that entry.

unsigned	sign magnitude	1's complement	2's complement	biased-64
10000000				
	10000000			
		00110011		
			10101010	
				00001111

5 Problem 5

- (6 points, 2 each part) In this question, a subscript indicates the base of the representation. For each part, find the missing value of the base.
- a. $217_{10} = 1332_x, x =$———
- b. $102_{10} = 146_y, y =$———
- c. $358_{10} = 166_z, z =$———