Due: Tuesday, September 21, 2004

Instructions: For the following questions, *show all of your work*. It is not sufficient to provide the answers.

Exercise 1. Convert the following decimal numbers to hexadecimal representations of 16-bit two's complement numbers.

a. 1293

b. 31249

c. -24752

d. -4096

Exercise 2. Convert the following 16-bit two's complement numbers in hexadecimal representation to decimal.

a. $FFF5_{16}$

b. $7CD9_{16}$

c. $00BB_{16}$

d. 8000_{16}

Exercise 3. Write the following decimal numbers in IEEE-754 single precision format. Give your answers in binary.

a. 14.125

b. 3.14159

c. -58.375

d. -4096

Exercise 4. Write the decimal equivalents for these IEEE-754 single precision floating point numbers given in binary.

a. `0 10000001 01100000000000000000000`

b. `1 10000001 00010000000000000000000`

c. `1 10000000 00000000000000000000000`

d. `0 00000001 01011000000000000000000`