1. Write a program that reads in a floating-point number and prints it first in decimal-point notation, then in exponential notation. Have the output use the following format (the actual number of digits displayed for the exponent depends on the system):

Enter a floating-point value: 64.25

fixed-point notation: 64.250000

exponential notation: 6.425000e+01

2. Write a program that asks you to enter an ASCII code value, such as 66, and then prints the character having that ASCII code.

3. The mass of a single molecule of water is about 3.0×10^{-23} grams. A quart of water is about 950 grams. Write a program that requests an amount of water, in quarts, and displays the number of water molecules in that amount.

4. Write a program that requests the download speed in megabits per second (Mbs) and the size of a file in megabytes (MB). The program should calculate the download time for the file. Note that in this context one byte is eight bits. Use type float, and use / for division. The program should report all three values (download speed, file size, and download time) showing two digits to the right of the decimal point, as in the following:

At 18.12 megabits per second, a file of 2.20 megabytes

downloads in 0.97 seconds.

5. Assume that a program contains the following declarations:

char c = '\1' ;

short s = 2;

int i = -3;

long m = 5;

float f = 6.5f;

double d = 7.5;

Give the value and the type of each expression listed below: (Output with the correct type)

(a) c * i (b) f / c (c) f - d (d) s + m (e) d / s (f) (int) f

6. Write a program that asks the user for a 12-hour time, then displays the time in 24-hour form:

Enter a 12-hour time: 9:11 PM

Equivalent 24-hour time : 21:11

(Tips) The format of the input can be controlled by the scanf statement. Remember, input is in whatever format you specify. You don't need anything you haven't learned.