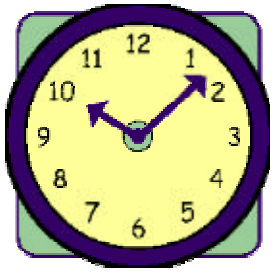
CPS 171 MACHINE PROBLEM 2 --- Due Date: 02/06/2002



Clock Arithmetic Problems

Here you will write a program that prompts the user to input a quantity of time expressed as a number of seconds. You will then echo the user input, solve two problems using this input value, and then the program will end. You will run the program three times, each time you will enter one of the following three values: 12345, 3600, and 999999. Capture the output of the program, print it out, and attach it to a listing of your C++ source code.

Here are the problems which must be solved:

1. Compute how many weeks, days, hours and minutes are represented by the quantity of time input. For example, user types in 12345 and program responds

12345 seconds is 0 weeks 0 days 3 hours 25 minutes 45 seconds

2. Also print out the number of decimal days that the time period represents, rounded to two decimal places. Suppose the user has typed in 12345, the program responds

12345 seconds is 0.14 days (decimal)

Hint: solving this requires accounting for the remainder after division. Using the modulus (%) operator is an easy way to do this. For example, suppose you want to know how many feet and inches are represented by 43 inches. 43 / 12 = 3 feet, 43 % 12 = 7 inches, therefore 43 inches is 3 feet and 7 inches.

Extra Credit (1 point): use the `short` datatype instead of `int` or `long` to hold the time quantities. What happens and why?