Allegro CL Certification Program

Lisp Programming Series Level 2

Session 2

Homework

Theme

- We are building a scheduling system that can be used by doctors to manage their daily appointments.

Date

- There is no "date" data type in lisp. Define one in CLOS named DATETIME that represents a date with slots:
  - Year, integer month, day, hour, minute

Date Comparison

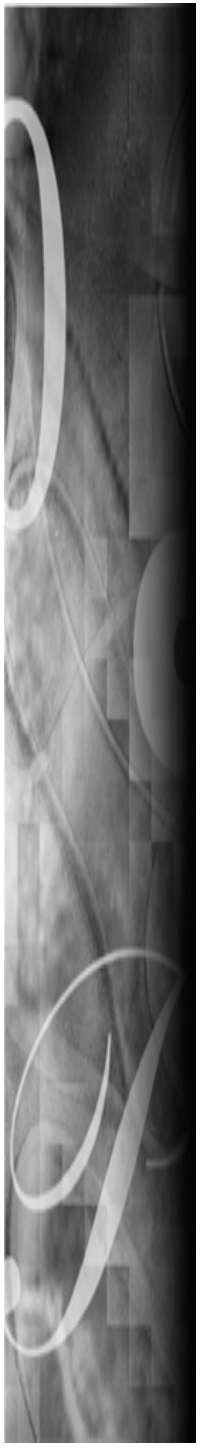
- Write a method print-date for displaying the date in a more familiar format, e.g.:
  - 8/16/1962 8:30
- Write a method DATE-LESSP that takes two dates as arguments and returns true if the first argument is earlier in time than the second.
  - Analogous to STRING-LESSP for strings
  - Can be used for sorting dates

Classes

- Define accessors, initforms, and initargs for a class representing an appointment
  - Have a slot for a datetime object
  - Have a slot for the name of the doctor

Subclasses

- Define a subclass representing a patient appointment
  - Need a slot for the name of the patient
- Define a third class named MEETING that is also an APPOINTMENT.
  - This is for something like a staff meeting or department meeting among doctors



Methods

- Create a method named SCHEDULE for adding an appointment to a schedule. The "schedule" should be an appropriate data structure attached to a global variable.
- Write a method (or methods) named CONFLICT-P that takes two appointments and determines if they conflict in time
- Using these two operations, make sure doctors can be double-booked but not patients.

More Features

- Write a method to cancel an appointment.
- Write a method to reschedule an appointment
- Write a function or method that gets today's schedule for a given person/patient. It should return a sorted list of appointments.
- Write a function or method that gets today's schedule for a given doctor. It should return a sorted list of appointments.

Save/Load

- List some of the different ways of storing the schedule. List as many as possible. Compare and contrast the various possibilities.