Description
This course introduces the basic concepts of symbolic programming as embodied in the language LISP. We will begin with the basic data and control structures of LISP: symbolic expressions, the interpreter, functions, recursion, iteration, and move to advanced data and control structures. We will cover the use of macros for making language extensions and how symbolic programming leads to new techniques of procedural and data abstraction.

Readings

Tools
Allegro Common Lisp 6.2. A free 60-day trial version (with extensions) is available from Franz, Inc. The software is also available at CTI labs (on the 6th, 7th and 8th floors of the CS&T building) and via remote desktop on the CTI Terminal Server. Other Common Lisp implementations may be used, but cannot be supported by the instructor.

Note
The schedule and other information in the syllabus is subject to change. Consult the course web site for the most up-to-date information.

Resources
In addition to the resources on the DLWeb site, additional information such as lecture notes and assignments can be found at http://josquin.cti.depaul.edu/~rburke/courses/s06/cs358/.

Assessment
Student progress will be assessed through a combination of regular programming assignments, lab exercises, a midterm and a final project. The weights of these components are as follows:

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1 http://www.franz.com/downloads/
Assignments: 50%
Graded Labs: 20%
Midterm: 10%
Final Project: 20%

The lowest homework grade will be dropped. Grading will be based on a curve, taking into consideration the performance of the whole class. However, students receiving more than 90% of possible points are guaranteed at least an A-; more than 80% at least a B-; more than 70% at least a C-; and more than 60% at least a D.

**Tentative Schedule**

3/27: Introduction to Lisp / Lisp Lab

4/3: Lists and Trees
Lists and list manipulation. Implementation of tree data structures. Using lists to represent symbolic information.
Reading: Reading: Slade, Ch. 1, 2 (except 2.10) & 3 (except 3.13)
Due: Homework #0, Homework #1

4/10: Functions and Recursion / Function Lab
Reading: Slade, Ch. 4, 5 (except 5.6), 8 (except 8.6)
Due: Homework #2

4/17: Strings and I/O
Lisp I/O. The Reader. Strings and string manipulation.
Reading: Slade, Ch. 6 (except 6.7), 7 (except 7.8)
Due: Homework #3, Project proposal

4/24: Midterm / Lab

5/1: Control
Looping. Iteration vs recursion. Conditionals.
Reading: Slade, Ch. 9
Due: Homework #4

5/8: Application: Symbolic Pattern Matching
Pattern matching. Rule-based systems, deductive retrieval and applications.
Reading: TBA
Due: Homework #5

5/15: Macros / Macro Lab
Control of evaluation. Writing macros. Standard techniques for language extension.
Reading: Slade, Ch. 11 (except 11.9)
Due: Homework #6

5/22: Application: Search
Representing problems as search spaces. Search techniques for planning and game playing.
Reading: TBA
Due: Project progress report

5/29: No class. Memorial day
Policies
Students are expected to attend all classes and participate in in-class exercises. Class will start promptly at 5:45 pm. Students are responsible for material they may have missed due to absence or tardiness. Exams can only be made up with a serious documented excuse (e.g. illness, death in the family). A make-up exam must be arranged as soon as possible and always before the student attends the next class meeting. Arrangements involving other excuses require prior permission from the instructor.

Assignments will be submitted online at the Course On-Line site. Do not submit assignments by email. All assignments should be completed and submitted by class time on the due date. We will discuss homework answers on their due date, therefore, no late assignments will be accepted. Make time in your schedule for learning a new programming language.

Assignments must represent a student's individual effort. While students are permitted to discuss assignments at the conceptual level and help each other point out compiler errors, under no circumstances should students share code (electronically or otherwise). Using any code in an assignment that does not acknowledge its author is plagiarism.

School Policies

Online Instructor Evaluation
Course and instructor evaluations are critical for maintaining and improving course quality. To make evaluations as meaningful as possible, we need 100% student participation. Therefore, participation in the School’s web-based academic administration initiative during the eighth and ninth week of this course is a requirement of this course. Failure to participate in this process will result in a grade of incomplete for the course. This incomplete will be automatically removed within seven weeks after the end of the course and replaced by the grade you would have received if you had fulfilled this requirement.

Email
Email is the primary means of communication between faculty and students enrolled in this course outside of class time. Students should be sure their email listed under "demographic information" at http://campusconnect.depaul.edu/ is correct.

Plagiarism:
The university and school policy on plagiarism can be summarized as follows: Students in this course, as well as all other courses in which independent research or writing play a vital part in the course requirements, should be aware of the strong sanctions that can be imposed against someone guilty of plagiarism. If proven, a charge of plagiarism could result in an automatic F in the course and possible expulsion. The strongest of sanctions will be imposed on anyone who submits as his/her own work a report, examination paper, computer file, lab report, or other assignment which has been prepared by someone else. If you have any questions or doubts about what plagiarism entails or how to properly acknowledge source materials be sure to consult the instructor.

Incomplete:
An incomplete grade is given only for an exceptional reason such as a death in the family, a serious illness, etc. Any such reason must be documented. Any incomplete request must be made at least two weeks before the final, and approved by the Dean of the School of Computer Science, Telecommunications and Information Systems. Any consequences resulting from a poor grade for the course will not be considered as valid reasons for such a request.

2 http://dlweb.cti.depaul.edu/