

CS 461

Suggestions for Projects

3/21/00

See also part IV of the book.

1. A small rule-based expert system (such as trouble-shooting in cars).
2. A itinerary advisor, that will draw up an itinerary for a tourist given some budget constraints, and interests of the tourist, plus other information.
3. A compiler for a subset of a language (say Pascal).
4. A package for recording data and answering (non-trivial) queries (for example, an airline reservation system, or a course-student-classes database for a university). Your program will consist of designing the database and a bunch of utility routines that will be frequently used.
5. Some scheduling problem (for example, keeping track of all hardware/manpower that a military has along with its location etc. and then given a request (during wartime, say) finding an optimal way to satisfy that need.
6. A program that will integrate, differentiate, perform algebraic manipulations (multiplication, subtraction, square root, etc.) on polynomials.
7. A program for playing a game (e.g. Othello, finishing positions in Chess, Kalah).
8. Figuring out when a student in Arts & Sciences will be able to graduate. This program should work in 3 ways: (i) Given a schedule it should be able to tell whether the student is eligible to graduate; (ii) Given a partial schedule it should be able to tell all possible ways in which a student can graduate (perhaps taking student preference into account); (iii) Tell a new student (who has decided his/her major) all possible schedules that will lead to graduation. This might be a real useful tool, if implemented.
9. A formal or natural language translation system. For example, translating a small subset of English to Spanish (or any other language). Translating one database language to another. Writing a compiler for a small language. Definite Clause Grammars will have to be used in the parsing phase.
10. A system for aircraft collision avoidance.
11. Implement one or more Graph algorithms.
12. Just about anything else that you can think of. Use your imagination!