

CLIPS Programming Project

This programming project should be implemented in CLIPS. You are required to represent knowledge on car troubleshooting using production rules. In this project, car troubleshooting is limited to the following two problems only:

- the engine is hard to start or won't start
- the engine stalls and idles rough.

Details of the relevant expertise have already been acquired for you from a Tuning and Troubleshooting manual, the relevant extract from which will be made available to you.

Your program should be interactive. It should have two main options; the first should implement forward chaining and the second backward chaining. These two parts may be independent. Running any part of your program should produce full explanations for the user.

Your program should be structured so that it should not be necessary to add any function evaluations or other features in order to start running

You should use the comments facilities of CLIPS to ensure that the program is self-documenting, and that any observations, assumptions, etc. that you wish to draw to my attention are immediately clear from the beginning of the program. The completed project should be submitted as a CLIPS file ready for me to load into CLIPS and test, transmitted as an attachment to an e-mail. Late projects will be accepted with a 10% penalty per day up to five days late. The time stamp of the e-mail will be used to determine any applicable late penalty (modified as necessary for those students who are cunningly maintaining e-mail addresses in other time zones!)

This is not intended to be an unduly arduous assignment, but nevertheless it is not trivial. Since this will be the first CLIPS programming venture for most students, I recommend a staged prototyping approach, since establishing the basic design will induce significant amounts of both thinking and researching CLIPS facilities and syntax. Once forward chaining is working for one rule, adding the rest of the rules will mostly require only careful typing. Finally, completing the backward chaining will require more effort, since CLIPS is designed primarily to offer forward chaining. Our textbook introduces us to ways around this problem.

Learn and enjoy!