

## CS512 LABORATORY – WEEK 9 – Winter 2010

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This lab will have you work with the instructor's implementation of a **STRIPS-planner**. Obtain copies of the following files:

```
~/voigt/cs512/plan-gs.lisp
~/voigt/cs512/jugs34.lisp
~/voigt/cs512/strips4jugs.lisp
```

Load all files into Lisp, starting with `plan-gs.lisp`. (In the current implementation, there is an order dependencies that would have to be ironed out in a more mature implementation....). Then start your STRIPS-planner for the **water-jug** puzzle with

```
(plan-jugs34 t)
```

Study the output, and verify that the resulting plan truly solves the puzzle.

**Exercise 1:** Write a function `verify-plan` that applies the plan output by the STRIPS-planner to the start state, and tests whether the sequences of actions solves the puzzle.

```
(defun verify-plan (plan start goal)
  ...
)
```

**Exercise 2:** Write the equivalent of `jugs34.lisp` and `strips4jugs.lisp` for the **Tower-of-Hanoi** puzzle. If you have another favorite puzzle that is amenable to planning, you may choose to work with it instead.

Study the functions in `jugs34.lisp` and `strips4jugs.lisp` carefully. A considerable portion of the code should be sufficiently general to apply across domains. Adopt what you can, adapt what is necessary, write the rest from scratch.

This exercise will also translate into your last programming assignment (hw4) of the quarter. Details on Thursday.