

Reinforcement Learning Trace

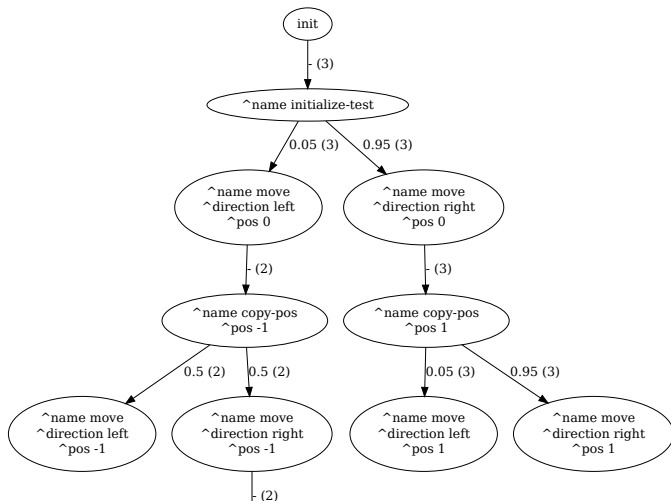
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Motivation

To provide a means of visualizing the probabilities of choosing different operators given the use of reinforcement learning.



RL -trace

To enable the trace: `rl -s/--set trace on`

We introduce a new command: `rl -t/--trace`

Legal arguments:

<code>print</code>	Print the trace for the top state.
<code>clear</code>	Erase the traces for all goal levels.
<code>init</code>	Restart recording from the beginning of the traces for all goal levels.

Generate images using `dot`, a part of the GraphViz suite:

i.e. `ctf rl.dot rl -t in Soar`
`dot -Tsvg rl.dot -o rl.svg in a shell`
`inkscape -f rl.svg -A rl.pdf in a shell`

Nuggets and Coal

Nuggets:

- It works. You can tell how likely the selection of different operators was in the most recent execution.
- The trace records activity at all goal levels.
- Gaps between operators supported by RL-rules are included in the traces.

Coal:

- It probably isn't very useful for agents which may cycle between states.
- Agent designers must keep operator attribute-value pairs in mind in order to match operators across executions.