

CS227: Reasoning Methods in AI

Assignment 4 Feedback for:

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I Overview

Project 4 was designed to give you exposure to working with planning algorithms and engineering planning domains. There were a number of interesting planning domains, but the quality of the analysis unfortunately seemed to have slipped for this last project.

Section II provides general feedback and observations for all assignments. Section III provides specific feedback for your group.

II General Feedback and Observations

1 Planning Domains

We were happy to see some truly unique domains and some possibly inadvertent rediscoveries of old favorites such as logistics and towers of hanoi. Our favorite was the “Super Barman” domain which required planners to plan how a bartender (with an arbitrary number of hands!) might efficiently mix and serve drinks to customers. In addition to being unique, it was carefully developed so it was easy to solve simple instances but substantially more difficult to find “good” solutions (e.g. the ability to mix the drinks in the fewest steps).

2 Analysis

Unfortunately, many groups did not provide the analysis we were looking for. There was a lot of “how” but little “why.” The best reports provided a solid analysis of the planners, problems they ran into, and interesting properties of their planning domains.

3 Results

We specifically asked for plots of runtimes and plan lengths, but several reports did not include these. A number of reports were also light on results in any form. This was unfortunate since results are one of the most effective ways to support your analysis.

III Feedback for the Robertson-Sullivan Group

1 The Good

- **Planning Domain.** You came up with the most interesting planning domain. As noted in earlier, you did a good job designing it and analyzing it. It has many characteristics which would make it a good planning benchmark.
- **Analysis.** You did an excellent job analyzing the planning algorithms.

2 Areas for Improvement

- **Justify Optimizations!** It is not clear that caching action parameters is much of a benefit. If it is, we would love to know! Next time, consider presenting data which shows how such an optimization helps, and then try to analyze why it helps in the measured situation and in what other situations it might be helpful.

3 Late Days

Please see Table 1 for information about the number of late days you used.

Assignment	Number of Late Days
Boolean Satisfiability	0
Constraint Satisfaction	2
Job Shop Scheduling	2
Planning	3
Late Day Penalty	0

Table 1: Late Day Statistics.

4 Grade

Your letter grade on this assignment: A+