

Assignment 1. Results

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PAH (Planning and Games)

Common Issues

Reading

- ▶ **People working**
 - ▶ Workplace or MHD/Taxi driver
- ▶ All vehicles have drivers
 - ▶ Even MHD and Taxi
- ▶ Park/Leave extension
 - ▶ Designated parking places, when driver leaves car, it must be there
- ▶ Time/Quality graphs (plots)
 - ▶ Tables not so much

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Modeling

- ▶ Defining multiple cost functions
 - ▶ Planners typically accept only (total–cost)
 - ▶ Solution A:
Use only one function with different values
 - ▶ Solution B:
Use special predicates e.g. (money), (time) and use them in action `pre()`
 - ▶ ...

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Modeling

▶ Fuel

- ▶ Planners typically do not work with numeric functions and predicates such as

$\leq, <, =, \dots$

- ▶ Solution:

f1 f2 f3 – fuel–level

(next ?f1 ?f2 – fuel–level)

PARAMS: ?f1 ?f2

PRE: (fuel ?f2) (next ?f1 ?f2)

EFF: (not(fuel ?f2)) (fuel ?f1)

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Planners

- ▶ **Bug in the plan.sh script**
 - ▶ (sorry)
- ▶ IDE: <http://editor.planning.domains>
- ▶ Planners
 - ▶ Mostly research tools
 - ▶ (Over)fitted to the International Planning Competition
 - ▶ Open-Source!

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Lessons Learned

- ▶ Complex problems can be modeled and solved
- ▶ Learned insights can be used to
 - ▶ Modify existing planner towards specific domain
 - ▶ Develop domain-specific solver using planning techniques (search, heuristics)
 - ▶ Select which approximation works best (relaxation, abstraction, ..)

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