

# Autoscale Benchmarks 21.11

Álvaro Torralba, Jendrik Seipp, Silvan Sievers

This document describes the Autoscale 21.11 benchmarks that we generated with the Autoscale algorithm [1]. Section 1 compares the Autoscale benchmarks to the benchmarks used in the International Planning Competition (IPC).

## Contents

<b>1</b>	<b>Evaluation</b>	<b>3</b>
<b>2</b>	<b>Domains</b>	<b>4</b>
2.1	Barman . . . . .	4
2.2	Blocksworld . . . . .	6
2.3	Childsnack . . . . .	8
2.4	Data-network . . . . .	10
2.5	Depots . . . . .	12
2.6	Driverlog . . . . .	14
2.7	Elevators . . . . .	16
2.8	Floortile . . . . .	18
2.9	Grid . . . . .	20
2.10	Gripper . . . . .	22
2.11	Hiking . . . . .	24
2.12	Logistics . . . . .	26
2.13	Miconic . . . . .	28
2.14	Nomystery . . . . .	30
2.15	Openstacks . . . . .	32
2.16	Parking . . . . .	34
2.17	Rovers . . . . .	36
2.18	Satellite . . . . .	38
2.19	Scanalyzer . . . . .	40
2.20	Snake . . . . .	42
2.21	Storage . . . . .	44
2.22	Termes . . . . .	46
2.23	Tpp . . . . .	48
2.24	Transport . . . . .	50
2.25	Visitall . . . . .	52
2.26	Woodworking . . . . .	54
2.27	Zenotravel . . . . .	56
2.28	Agricola . . . . .	58
2.29	Airport . . . . .	59
2.30	Freecell . . . . .	60
2.31	Ged . . . . .	61
2.32	Mprime . . . . .	62
2.33	Mystery . . . . .	63
2.34	Organic-synthesis-split . . . . .	64
2.35	Parcprinter . . . . .	65

2.36	Pathways . . . . .	66
2.37	Pegsol . . . . .	67
2.38	Pipesworld-notankage . . . . .	68
2.39	Pipesworld-tankage . . . . .	69
2.40	Sokoban . . . . .	70
2.41	Tetris . . . . .	71
2.42	Thoughtful . . . . .	72
2.43	Tidybot . . . . .	73

# 1 Evaluation

Domain	#IPC	optimal					agile/satisficing				
		#s	cov range		comp (91)		#s	cov range		comp (91)	
			IPC	AS	AS	diff		IPC	AS	AS	diff
agricola	20	5	0–13	0–14	72	<b>+5</b>	3	0–13	0–25	61	<b>-19</b>
airport	50	2	22–38	1–17	84	<b>+1</b>	2	34–48	14–27	85	<b>±0</b>
barman	34/40	3	4–16	8–16	83	<b>+28</b>	2	17–40	0–27	89	<b>+37</b>
blocksworld	35	2	18–34	10–20	82	<b>+20</b>	1	35–35	3–27	86	<b>+86</b>
childsnaek	20	3	0–6	4–14	69	<b>+8</b>	2	0–20	0–21	84	<b>-2</b>
data-network	20	2	6–14	5–14	77	<b>-8</b>	2	2–19	1–26	88	<b>+5</b>
depots	22	3	4–14	2–18	79	<b>+4</b>	1	17–22	4–15	79	<b>+43</b>
driverlog	20	3	7–15	2–18	88	<b>+23</b>	1	18–20	7–29	87	<b>+74</b>
elevators	50	4	7–44	0–14	81	<b>-4</b>	1	11–50	2–30	62	<b>+26</b>
floortile	40	2	2–34	3–20	81	<b>+1</b>	1	4–40	1–15	75	<b>+1</b>
freecell	80	2	15–70	3–18	66	<b>-9</b>	1	46–80	10–29	80	<b>+37</b>
ged	20	3	15–19	8–22	67	<b>+18</b>	1	0–20	3–30	66	<b>+41</b>
grid	5	1	1–3	5–22	86	<b>+27</b>	1	4–5	4–15	74	<b>+61</b>
gripper	20	1	7–20	10–30	45	<b>-4</b>	1	20–20	21–30	25	<b>+25</b>
hiking	20	3	9–19	5–19	80	<b>±0</b>	1	1–20	0–23	81	<b>+19</b>
logistics	63	4	12–36	9–24	88	<b>+2</b>	1	51–63	3–15	83	<b>+21</b>
miconic	150	1	55–144	2–20	86	<b>-2</b>	1	150–150	30–30	0	<b>±0</b>
mprime	35	2	18–31	1–13	83	<b>+16</b>	3	31–35	5–22	85	<b>+61</b>
nomystery	20	1	8–20	4–21	83	<b>+14</b>	2	6–20	1–24	89	<b>+6</b>
openstacks	70	2	23–70	3–14	36	<b>-45</b>	2	6–70	2–27	87	<b>+41</b>
organic-split	20	2	7–15	2–16	78	<b>+5</b>	2	3–14	0–18	88	<b>+2</b>
parcprinter	50	1	16–50	7–30	87	<b>+2</b>	1	13–50	8–30	55	<b>+9</b>
parking	40	3	0–15	5–17	85	<b>-2</b>	1	23–40	0–21	83	<b>+20</b>
pathways	30	3	4–5	9–14	72	<b>+24</b>	1	9–30	9–30	84	<b>+5</b>
pegsol	50	1	44–50	20–30	73	<b>+14</b>	1	48–50	28–30	43	<b>+18</b>
pipes-nt	50	4	15–25	8–22	88	<b>+5</b>	3	31–50	6–30	83	<b>+6</b>
pipes-t	50	4	12–22	8–18	82	<b>+3</b>	3	15–44	3–30	75	<b>-5</b>
rovers	40	2	6–14	2–16	64	<b>-19</b>	4	26–40	19–30	13	<b>-12</b>
satellite	36	2	6–14	5–22	87	<b>+8</b>	1	26–36	5–16	80	<b>+5</b>
scanalyzer	50	3	15–33	6–17	76	<b>-3</b>	1	42–50	6–17	79	<b>+25</b>
snake	20	2	4–14	1–14	83	<b>+15</b>	1	3–17	5–17	81	<b>-3</b>
sokoban	50	2	11–50	0–24	84	<b>+10</b>	1	8–50	5–27	85	<b>+4</b>
storage	30	2	14–18	4–24	89	<b>+19</b>	2	19–30	3–19	84	<b>±0</b>
termes	20	3	5–18	6–21	83	<b>+3</b>	2	0–15	0–21	87	<b>+2</b>
tetris	17/20	3	6–13	6–21	79	<b>-2</b>	2	6–20	1–20	82	<b>+5</b>
thoughtful	-/20	3	–	2–5	13	–	1	5–20	0–30	87	<b>+8</b>
tidybot	40/20	2	11–32	2–11	85	<b>+2</b>	1	13–20	4–21	85	<b>+9</b>
tpp	30	1	6–20	2–20	76	<b>±0</b>	1	23–30	7–18	84	<b>+35</b>
transport	70	4	23–35	5–18	85	<b>+12</b>	3	13–70	2–20	81	<b>+20</b>
visitall	40	2	12–30	2–19	82	<b>-3</b>	1	3–40	5–29	88	<b>+42</b>
woodworking	50	2	11–50	5–17	81	<b>±0</b>	2	28–50	3–19	87	<b>+51</b>
zenotravel	20	6	7–13	5–21	85	<b>+9</b>	1	20–20	5–13	80	<b>+80</b>

Table 1: Comparison of the IPC and Autoscale (AS) benchmark sets generated for optimal and agile planning. The #IPC column shows the number of tasks per domain in the IPC set, which is always 30 for the AS set. The #s columns show the number of sequences in the AS instance sets. The “cov range” columns show the minimum and maximum coverage of any planner. The “comp” columns report how many pairs of planners yield different coverage. We show the value for the AS set and the difference to the value for the IPC set, highlighting in bold the cases where the AS set is superior. The maximum possible number of pairwise comparisons is 91.

## 2 Domains

### 2.1 Barman

#### Attributes

num_cocktails	Linear(b=[1, 10], m=[0.33, 5.0])
num_shots	Linear(b=[1, 5], m=[0, 5.0 + num_cocktails])
num_ingredients	Enum([2, 3, 4, 5, 6])

Duplicated Parameters Penalty: 100.0

#### Sequences for optimal planning

#	num_cocktails	num_shots	num_ingredients	Estimated time
11	1 → 5	3 → 13	2	0.63 → 160000.0
8	1 → 4	2 → 11	5	0.65 → 74000.0
11	1 → 13	2 → 14	2	0.72 → 160000.0

#### Sequences for agile/satisficing planning

#	num_cocktails	num_shots	num_ingredients	Estimated Time
19	6 → 70	11 → 78	2	0.9 → 63000.0
11	25 → 37	26 → 38	6	390.0 → 33000.0

#### Tasks for optimal planning

name	config	estimated_time
p01	'num_cocktails': 1, 'num_shots': 3, 'num_ingredients': 2	0.63
p02	'num_cocktails': 1, 'num_shots': 4, 'num_ingredients': 2	0.75
p03	'num_cocktails': 2, 'num_shots': 5, 'num_ingredients': 2	3.78
p04	'num_cocktails': 2, 'num_shots': 6, 'num_ingredients': 2	7.50
p05	'num_cocktails': 2, 'num_shots': 7, 'num_ingredients': 2	17.59
p06	'num_cocktails': 3, 'num_shots': 8, 'num_ingredients': 2	167.45
p07	'num_cocktails': 3, 'num_shots': 9, 'num_ingredients': 2	350.45
p08	'num_cocktails': 4, 'num_shots': 10, 'num_ingredients': 2	1630.38
p09	'num_cocktails': 4, 'num_shots': 11, 'num_ingredients': 2	7584.79
p10	'num_cocktails': 5, 'num_shots': 12, 'num_ingredients': 2	35285.77
p11	'num_cocktails': 5, 'num_shots': 13, 'num_ingredients': 2	164155.60
p12	'num_cocktails': 1, 'num_shots': 2, 'num_ingredients': 5	0.65
p13	'num_cocktails': 1, 'num_shots': 3, 'num_ingredients': 5	0.75
p14	'num_cocktails': 2, 'num_shots': 5, 'num_ingredients': 5	11.55
p15	'num_cocktails': 2, 'num_shots': 6, 'num_ingredients': 5	30.02
p16	'num_cocktails': 2, 'num_shots': 7, 'num_ingredients': 5	157.67
p17	'num_cocktails': 3, 'num_shots': 8, 'num_ingredients': 5	1226.91
p18	'num_cocktails': 3, 'num_shots': 9, 'num_ingredients': 5	9547.04
p19	'num_cocktails': 4, 'num_shots': 11, 'num_ingredients': 5	74288.87
p20	'num_cocktails': 1, 'num_shots': 2, 'num_ingredients': 2	0.72
p21	'num_cocktails': 2, 'num_shots': 3, 'num_ingredients': 2	0.88
p22	'num_cocktails': 3, 'num_shots': 4, 'num_ingredients': 2	3.45
p23	'num_cocktails': 4, 'num_shots': 5, 'num_ingredients': 2	10.18
p24	'num_cocktails': 5, 'num_shots': 6, 'num_ingredients': 2	48.24
p25	'num_cocktails': 7, 'num_shots': 8, 'num_ingredients': 2	185.57
p26	'num_cocktails': 8, 'num_shots': 9, 'num_ingredients': 2	713.82
p27	'num_cocktails': 9, 'num_shots': 10, 'num_ingredients': 2	2745.89
p28	'num_cocktails': 10, 'num_shots': 11, 'num_ingredients': 2	10562.71
p29	'num_cocktails': 11, 'num_shots': 12, 'num_ingredients': 2	40631.93
p30	'num_cocktails': 13, 'num_shots': 14, 'num_ingredients': 2	156300.19

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'num_cocktails': 6, 'num_shots': 11, 'num_ingredients': 2	0.90
p02	'num_cocktails': 9, 'num_shots': 14, 'num_ingredients': 2	1.22
p03	'num_cocktails': 13, 'num_shots': 18, 'num_ingredients': 2	1.71
p04	'num_cocktails': 16, 'num_shots': 21, 'num_ingredients': 2	2.38
p05	'num_cocktails': 20, 'num_shots': 25, 'num_ingredients': 2	3.63
p06	'num_cocktails': 24, 'num_shots': 30, 'num_ingredients': 2	6.61
p07	'num_cocktails': 27, 'num_shots': 33, 'num_ingredients': 2	7.93
p08	'num_cocktails': 31, 'num_shots': 37, 'num_ingredients': 2	8.79
p09	'num_cocktails': 34, 'num_shots': 40, 'num_ingredients': 2	14.85
p10	'num_cocktails': 38, 'num_shots': 44, 'num_ingredients': 2	18.48
p11	'num_cocktails': 42, 'num_shots': 49, 'num_ingredients': 2	24.41
p12	'num_cocktails': 45, 'num_shots': 52, 'num_ingredients': 2	25.18
p13	'num_cocktails': 49, 'num_shots': 56, 'num_ingredients': 2	30.05
p14	'num_cocktails': 52, 'num_shots': 59, 'num_ingredients': 2	41.70
p15	'num_cocktails': 56, 'num_shots': 63, 'num_ingredients': 2	180.00
p16	'num_cocktails': 60, 'num_shots': 68, 'num_ingredients': 2	777.04
p17	'num_cocktails': 63, 'num_shots': 71, 'num_ingredients': 2	3354.40
p18	'num_cocktails': 67, 'num_shots': 75, 'num_ingredients': 2	14480.58
p19	'num_cocktails': 70, 'num_shots': 78, 'num_ingredients': 2	62511.10
p20	'num_cocktails': 25, 'num_shots': 26, 'num_ingredients': 6	389.91
p21	'num_cocktails': 26, 'num_shots': 27, 'num_ingredients': 6	608.13
p22	'num_cocktails': 28, 'num_shots': 29, 'num_ingredients': 6	948.48
p23	'num_cocktails': 29, 'num_shots': 30, 'num_ingredients': 6	1479.32
p24	'num_cocktails': 30, 'num_shots': 31, 'num_ingredients': 6	2307.25
p25	'num_cocktails': 31, 'num_shots': 32, 'num_ingredients': 6	3598.55
p26	'num_cocktails': 32, 'num_shots': 33, 'num_ingredients': 6	5612.55
p27	'num_cocktails': 34, 'num_shots': 35, 'num_ingredients': 6	8753.73
p28	'num_cocktails': 35, 'num_shots': 36, 'num_ingredients': 6	13652.95
p29	'num_cocktails': 36, 'num_shots': 37, 'num_ingredients': 6	21294.11
p30	'num_cocktails': 37, 'num_shots': 38, 'num_ingredients': 6	33211.82

## 2.2 Blocksworld

### Attributes

---

n	Linear(b=[5, 10], m=[1, 5])
---	-----------------------------

---

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	n	Estimated time
17	5 → 21	0.54 → 330000.0
13	5 → 20	0.54 → 230000.0

### Sequences for agile/satisficing planning

#	n	Estimated Time
30	9 → 151	0.52 → 100000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'n': 5	0.54
p02	'n': 6	0.56
p03	'n': 7	0.59
p04	'n': 8	0.61
p05	'n': 9	0.72
p06	'n': 10	0.86
p07	'n': 11	1.98
p08	'n': 12	6.23
p09	'n': 13	72.00
p10	'n': 14	159.80
p11	'n': 15	178.31
p12	'n': 16	278.94
p13	'n': 17	1147.54
p14	'n': 18	4720.88
p15	'n': 19	19421.25
p16	'n': 20	79897.17
p17	'n': 21	328689.39
p18	'n': 5	0.54
p19	'n': 6	0.56
p20	'n': 7	0.59
p21	'n': 8	0.61
p22	'n': 10	0.86
p23	'n': 11	1.98
p24	'n': 12	6.23
p25	'n': 14	159.80
p26	'n': 15	178.31
p27	'n': 16	278.94
p28	'n': 18	2633.87
p29	'n': 19	24869.95
p30	'n': 20	234830.89

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'n': 9	0.52
p02	'n': 13	0.57
p03	'n': 18	0.68
p04	'n': 23	0.82
p05	'n': 28	1.05
p06	'n': 33	1.37
p07	'n': 38	1.96
p08	'n': 43	2.97
p09	'n': 48	3.41
p10	'n': 53	4.97
p11	'n': 57	6.39
p12	'n': 62	20.04
p13	'n': 67	27.25
p14	'n': 72	37.19
p15	'n': 77	58.54
p16	'n': 82	89.25
p17	'n': 87	110.46
p18	'n': 92	184.83
p19	'n': 97	313.42
p20	'n': 102	531.48
p21	'n': 107	901.25
p22	'n': 111	1528.29
p23	'n': 116	2591.60
p24	'n': 121	4394.70
p25	'n': 126	7452.31
p26	'n': 131	12637.25
p27	'n': 136	21429.59
p28	'n': 141	36339.19
p29	'n': 146	61622.11
p30	'n': 151	104495.58

## 2.3 Childsnack

### Attributes

num_children	Linear(b=[2, 12], m=[1, 3])
const_ratio	Enum([1, 1.3, 2])
num_trays	Enum([2, 3, 4])
gluten_factor	Enum([0.4, 0.6, 0.8])

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	num_children	const_ratio	num_trays	gluten_factor	Estimated time
13	2 → 15	1	2	0.8	0.5 → 130000.0
12	4 → 16	1	3	0.8	0.72 → 66000.0
5	8 → 12	2	3	0.4	180.0 → 140000.0

### Sequences for agile/satisficing planning

#	num_children	const_ratio	num_trays	gluten_factor	Estimated Time
22	5 → 34	1	4	0.8	0.31 → 23000.0
8	20 → 27	2	2	0.6	320.0 → 44000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'num_children': 2, 'const_ratio': 1, 'num_trays': 2, 'gluten_factor': 0.8	0.50
p02	'num_children': 3, 'const_ratio': 1, 'num_trays': 2, 'gluten_factor': 0.8	0.52
p03	'num_children': 4, 'const_ratio': 1, 'num_trays': 2, 'gluten_factor': 0.8	0.65
p04	'num_children': 5, 'const_ratio': 1, 'num_trays': 2, 'gluten_factor': 0.8	1.20
p05	'num_children': 6, 'const_ratio': 1, 'num_trays': 2, 'gluten_factor': 0.8	5.51
p06	'num_children': 7, 'const_ratio': 1, 'num_trays': 2, 'gluten_factor': 0.8	15.42
p07	'num_children': 8, 'const_ratio': 1, 'num_trays': 2, 'gluten_factor': 0.8	36.03
p08	'num_children': 9, 'const_ratio': 1, 'num_trays': 2, 'gluten_factor': 0.8	208.91
p09	'num_children': 10, 'const_ratio': 1, 'num_trays': 2, 'gluten_factor': 0.8	761.31
p10	'num_children': 11, 'const_ratio': 1, 'num_trays': 2, 'gluten_factor': 0.8	2774.30
p11	'num_children': 12, 'const_ratio': 1, 'num_trays': 2, 'gluten_factor': 0.8	10109.89
p12	'num_children': 14, 'const_ratio': 1, 'num_trays': 2, 'gluten_factor': 0.8	36841.63
p13	'num_children': 15, 'const_ratio': 1, 'num_trays': 2, 'gluten_factor': 0.8	134255.31
p14	'num_children': 4, 'const_ratio': 1, 'num_trays': 3, 'gluten_factor': 0.8	0.72
p15	'num_children': 5, 'const_ratio': 1, 'num_trays': 3, 'gluten_factor': 0.8	1.65
p16	'num_children': 6, 'const_ratio': 1, 'num_trays': 3, 'gluten_factor': 0.8	9.67
p17	'num_children': 7, 'const_ratio': 1, 'num_trays': 3, 'gluten_factor': 0.8	26.58
p18	'num_children': 8, 'const_ratio': 1, 'num_trays': 3, 'gluten_factor': 0.8	144.35
p19	'num_children': 9, 'const_ratio': 1, 'num_trays': 3, 'gluten_factor': 0.8	176.31
p20	'num_children': 10, 'const_ratio': 1, 'num_trays': 3, 'gluten_factor': 0.8	352.48
p21	'num_children': 11, 'const_ratio': 1, 'num_trays': 3, 'gluten_factor': 0.8	1004.69
p22	'num_children': 12, 'const_ratio': 1, 'num_trays': 3, 'gluten_factor': 0.8	2863.69
p23	'num_children': 14, 'const_ratio': 1, 'num_trays': 3, 'gluten_factor': 0.8	8162.46
p24	'num_children': 15, 'const_ratio': 1, 'num_trays': 3, 'gluten_factor': 0.8	23265.73
p25	'num_children': 16, 'const_ratio': 1, 'num_trays': 3, 'gluten_factor': 0.8	66315.06
p26	'num_children': 8, 'const_ratio': 2, 'num_trays': 3, 'gluten_factor': 0.4	180.00
p27	'num_children': 9, 'const_ratio': 2, 'num_trays': 3, 'gluten_factor': 0.4	948.08
p28	'num_children': 10, 'const_ratio': 2, 'num_trays': 3, 'gluten_factor': 0.4	4993.66
p29	'num_children': 11, 'const_ratio': 2, 'num_trays': 3, 'gluten_factor': 0.4	26302.18
p30	'num_children': 12, 'const_ratio': 2, 'num_trays': 3, 'gluten_factor': 0.4	138536.67



## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'num_children': 5, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	0.31
p02	'num_children': 6, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	0.35
p03	'num_children': 7, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	0.47
p04	'num_children': 9, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	0.80
p05	'num_children': 10, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	1.05
p06	'num_children': 12, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	1.66
p07	'num_children': 13, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	2.38
p08	'num_children': 14, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	3.71
p09	'num_children': 16, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	10.27
p10	'num_children': 17, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	16.00
p11	'num_children': 19, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	34.79
p12	'num_children': 20, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	49.66
p13	'num_children': 21, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	108.23
p14	'num_children': 23, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	168.49
p15	'num_children': 24, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	265.99
p16	'num_children': 25, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	503.36
p17	'num_children': 27, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	952.53
p18	'num_children': 28, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	1802.53
p19	'num_children': 30, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	3411.04
p20	'num_children': 31, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	6454.91
p21	'num_children': 32, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	12215.01
p22	'num_children': 34, 'const_ratio': 1, 'num_trays': 4, 'gluten_factor': 0.8	23115.18
p23	'num_children': 20, 'const_ratio': 2, 'num_trays': 2, 'gluten_factor': 0.6	321.07
p24	'num_children': 21, 'const_ratio': 2, 'num_trays': 2, 'gluten_factor': 0.6	649.10
p25	'num_children': 22, 'const_ratio': 2, 'num_trays': 2, 'gluten_factor': 0.6	1312.25
p26	'num_children': 23, 'const_ratio': 2, 'num_trays': 2, 'gluten_factor': 0.6	2652.92
p27	'num_children': 24, 'const_ratio': 2, 'num_trays': 2, 'gluten_factor': 0.6	5363.31
p28	'num_children': 25, 'const_ratio': 2, 'num_trays': 2, 'gluten_factor': 0.6	10842.78
p29	'num_children': 26, 'const_ratio': 2, 'num_trays': 2, 'gluten_factor': 0.6	21920.39
p30	'num_children': 27, 'const_ratio': 2, 'num_trays': 2, 'gluten_factor': 0.6	44315.55

## 2.4 Data-network

### Attributes

network	Enum(['tiny-network', 'small-network', 'ring-network'])
layers	Enum([2, 3, 4, 5, 6])
extra_items	Linear(b=[2, 20], m=[1, 5])
extra_scripts	Linear(b=[2, 25], m=[0, 5])
Adapt parameters:	Yes
Duplicated Parameters Penalty: 100.0	

### Sequences for optimal planning

#	network	layers	extra_items	extra_scripts	Estimated time
16	tiny-network	3	2 → 17	22 → 70	1.4 → 140000.0
14	tiny-network	4	5 → 18	32 → 65	21.0 → 96000.0

### Sequences for agile/satisficing planning

#	network	layers	extra_items	extra_scripts	Estimated Time
21	ring-network	3	9 → 47	42 → 140	2.0 → 28000.0
9	ring-network	4	42 → 61	61 → 89	320.0 → 20000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'network': 'tiny-network', 'layers': 3, 'extra_items': 2, 'extra_scripts': 22, 'items': 5, 'scripts': 25	1.43
p02	'network': 'tiny-network', 'layers': 3, 'extra_items': 3, 'extra_scripts': 25, 'items': 6, 'scripts': 29	2.36
p03	'network': 'tiny-network', 'layers': 3, 'extra_items': 4, 'extra_scripts': 28, 'items': 7, 'scripts': 33	5.43
p04	'network': 'tiny-network', 'layers': 3, 'extra_items': 5, 'extra_scripts': 31, 'items': 8, 'scripts': 37	11.07
p05	'network': 'tiny-network', 'layers': 3, 'extra_items': 6, 'extra_scripts': 34, 'items': 9, 'scripts': 41	50.10
p06	'network': 'tiny-network', 'layers': 3, 'extra_items': 7, 'extra_scripts': 38, 'items': 10, 'scripts': 46	85.01
p07	'network': 'tiny-network', 'layers': 3, 'extra_items': 8, 'extra_scripts': 41, 'items': 11, 'scripts': 50	150.01
p08	'network': 'tiny-network', 'layers': 3, 'extra_items': 9, 'extra_scripts': 44, 'items': 12, 'scripts': 54	195.49
p09	'network': 'tiny-network', 'layers': 3, 'extra_items': 10, 'extra_scripts': 47, 'items': 13, 'scripts': 58	442.99
p10	'network': 'tiny-network', 'layers': 3, 'extra_items': 11, 'extra_scripts': 50, 'items': 14, 'scripts': 62	1003.84
p11	'network': 'tiny-network', 'layers': 3, 'extra_items': 12, 'extra_scripts': 54, 'items': 15, 'scripts': 67	2274.80
p12	'network': 'tiny-network', 'layers': 3, 'extra_items': 13, 'extra_scripts': 57, 'items': 16, 'scripts': 71	5154.89
p13	'network': 'tiny-network', 'layers': 3, 'extra_items': 14, 'extra_scripts': 60, 'items': 17, 'scripts': 75	11681.42
p14	'network': 'tiny-network', 'layers': 3, 'extra_items': 15, 'extra_scripts': 63, 'items': 18, 'scripts': 79	26471.10
p15	'network': 'tiny-network', 'layers': 3, 'extra_items': 16, 'extra_scripts': 66, 'items': 19, 'scripts': 83	59985.81
p16	'network': 'tiny-network', 'layers': 3, 'extra_items': 17, 'extra_scripts': 70, 'items': 20, 'scripts': 88	135933.01
p17	'network': 'tiny-network', 'layers': 4, 'extra_items': 5, 'extra_scripts': 32, 'items': 9, 'scripts': 39	20.80
p18	'network': 'tiny-network', 'layers': 4, 'extra_items': 6, 'extra_scripts': 35, 'items': 10, 'scripts': 43	31.71
p19	'network': 'tiny-network', 'layers': 4, 'extra_items': 7, 'extra_scripts': 37, 'items': 11, 'scripts': 46	64.42
p20	'network': 'tiny-network', 'layers': 4, 'extra_items': 8, 'extra_scripts': 40, 'items': 12, 'scripts': 50	98.38
p21	'network': 'tiny-network', 'layers': 4, 'extra_items': 9, 'extra_scripts': 42, 'items': 13, 'scripts': 53	140.36
p22	'network': 'tiny-network', 'layers': 4, 'extra_items': 10, 'extra_scripts': 45, 'items': 14, 'scripts': 57	223.84
p23	'network': 'tiny-network', 'layers': 4, 'extra_items': 11, 'extra_scripts': 47, 'items': 15, 'scripts': 60	477.43
p24	'network': 'tiny-network', 'layers': 4, 'extra_items': 12, 'extra_scripts': 50, 'items': 16, 'scripts': 64	1018.35
p25	'network': 'tiny-network', 'layers': 4, 'extra_items': 13, 'extra_scripts': 52, 'items': 17, 'scripts': 67	2172.11
p26	'network': 'tiny-network', 'layers': 4, 'extra_items': 14, 'extra_scripts': 55, 'items': 18, 'scripts': 71	4633.03
p27	'network': 'tiny-network', 'layers': 4, 'extra_items': 15, 'extra_scripts': 57, 'items': 19, 'scripts': 74	9882.11
p28	'network': 'tiny-network', 'layers': 4, 'extra_items': 16, 'extra_scripts': 60, 'items': 20, 'scripts': 78	21078.22
p29	'network': 'tiny-network', 'layers': 4, 'extra_items': 17, 'extra_scripts': 62, 'items': 21, 'scripts': 81	44959.16
p30	'network': 'tiny-network', 'layers': 4, 'extra_items': 18, 'extra_scripts': 65, 'items': 22, 'scripts': 85	95896.45

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'network': 'ring-network', 'layers': 3, 'extra_items': 9, 'extra_scripts': 42, 'items': 12, 'scripts': 52	2.01
p02	'network': 'ring-network', 'layers': 3, 'extra_items': 11, 'extra_scripts': 47, 'items': 14, 'scripts': 59	3.09
p03	'network': 'ring-network', 'layers': 3, 'extra_items': 13, 'extra_scripts': 52, 'items': 16, 'scripts': 66	4.52
p04	'network': 'ring-network', 'layers': 3, 'extra_items': 15, 'extra_scripts': 57, 'items': 18, 'scripts': 73	4.93
p05	'network': 'ring-network', 'layers': 3, 'extra_items': 17, 'extra_scripts': 62, 'items': 20, 'scripts': 80	5.06
p06	'network': 'ring-network', 'layers': 3, 'extra_items': 19, 'extra_scripts': 67, 'items': 22, 'scripts': 87	5.76
p07	'network': 'ring-network', 'layers': 3, 'extra_items': 20, 'extra_scripts': 72, 'items': 23, 'scripts': 93	6.33
p08	'network': 'ring-network', 'layers': 3, 'extra_items': 22, 'extra_scripts': 76, 'items': 25, 'scripts': 99	11.07
p09	'network': 'ring-network', 'layers': 3, 'extra_items': 24, 'extra_scripts': 81, 'items': 27, 'scripts': 106	53.83
p10	'network': 'ring-network', 'layers': 3, 'extra_items': 26, 'extra_scripts': 86, 'items': 29, 'scripts': 113	61.05
p11	'network': 'ring-network', 'layers': 3, 'extra_items': 28, 'extra_scripts': 91, 'items': 31, 'scripts': 120	125.56
p12	'network': 'ring-network', 'layers': 3, 'extra_items': 30, 'extra_scripts': 96, 'items': 33, 'scripts': 127	133.11
p13	'network': 'ring-network', 'layers': 3, 'extra_items': 32, 'extra_scripts': 101, 'items': 35, 'scripts': 134	156.08
p14	'network': 'ring-network', 'layers': 3, 'extra_items': 34, 'extra_scripts': 106, 'items': 37, 'scripts': 141	256.21
p15	'network': 'ring-network', 'layers': 3, 'extra_items': 36, 'extra_scripts': 111, 'items': 39, 'scripts': 148	500.63
p16	'network': 'ring-network', 'layers': 3, 'extra_items': 38, 'extra_scripts': 116, 'items': 41, 'scripts': 155	978.22
p17	'network': 'ring-network', 'layers': 3, 'extra_items': 39, 'extra_scripts': 121, 'items': 42, 'scripts': 161	1911.40
p18	'network': 'ring-network', 'layers': 3, 'extra_items': 41, 'extra_scripts': 125, 'items': 44, 'scripts': 167	3734.80
p19	'network': 'ring-network', 'layers': 3, 'extra_items': 43, 'extra_scripts': 130, 'items': 46, 'scripts': 174	7297.65
p20	'network': 'ring-network', 'layers': 3, 'extra_items': 45, 'extra_scripts': 135, 'items': 48, 'scripts': 181	14259.34
p21	'network': 'ring-network', 'layers': 3, 'extra_items': 47, 'extra_scripts': 140, 'items': 50, 'scripts': 188	27862.23
p22	'network': 'ring-network', 'layers': 4, 'extra_items': 42, 'extra_scripts': 61, 'items': 46, 'scripts': 105	324.52
p23	'network': 'ring-network', 'layers': 4, 'extra_items': 45, 'extra_scripts': 65, 'items': 49, 'scripts': 112	543.51
p24	'network': 'ring-network', 'layers': 4, 'extra_items': 47, 'extra_scripts': 68, 'items': 51, 'scripts': 117	910.27
p25	'network': 'ring-network', 'layers': 4, 'extra_items': 49, 'extra_scripts': 72, 'items': 53, 'scripts': 123	1524.54
p26	'network': 'ring-network', 'layers': 4, 'extra_items': 52, 'extra_scripts': 75, 'items': 56, 'scripts': 129	2553.32
p27	'network': 'ring-network', 'layers': 4, 'extra_items': 54, 'extra_scripts': 79, 'items': 58, 'scripts': 135	4276.33
p28	'network': 'ring-network', 'layers': 4, 'extra_items': 57, 'extra_scripts': 82, 'items': 61, 'scripts': 141	7162.06
p29	'network': 'ring-network', 'layers': 4, 'extra_items': 59, 'extra_scripts': 86, 'items': 63, 'scripts': 147	11995.12
p30	'network': 'ring-network', 'layers': 4, 'extra_items': 61, 'extra_scripts': 89, 'items': 65, 'scripts': 152	20089.60

## 2.5 Depots

### Attributes

depots	Linear(b=[3, 10], m=[0, 5.0])
distributors	Linear(b=[2, 10], m=[0, 5.0])
trucks	Linear(b=[2, 10], m=[0, 5.0])
pallets	Linear(b=[2, 20], m=[0, 5.0])
hoists	Linear(b=[2, 10], m=[0, 1])
crates	Linear(b=[3, 20], m=[1, 5.0])

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	depots	distributors	trucks	pallets	hoists	crates	Estimated time
12	3	2	2	2	3 → 14	3 → 15	0.59 → 170000.0
9	3	3	2	4 → 8	2	4 → 12	0.66 → 110000.0
9	3	2	2	2	4 → 9	5 → 14	1.5 → 50000.0

### Sequences for agile/satisficing planning

#	depots	distributors	trucks	pallets	hoists	crates	Estimated Time
30	9 → 142	2	2	16 → 56	2 → 7	3 → 43	0.7 → 120000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 3, 'crates': 3	0.59
p02	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 4, 'crates': 4	0.72
p03	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 5, 'crates': 5	1.60
p04	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 6, 'crates': 6	6.61
p05	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 7, 'crates': 7	29.86
p06	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 8, 'crates': 8	140.22
p07	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 9, 'crates': 9	256.78
p08	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 10, 'crates': 10	945.38
p09	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 11, 'crates': 11	3480.64
p10	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 12, 'crates': 12	12814.79
p11	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 13, 'crates': 13	47180.60
p12	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 14, 'crates': 15	173706.26
p13	'depots': 3, 'distributors': 3, 'trucks': 2, 'pallets': 4, 'hoists': 2, 'crates': 4	0.66
p14	'depots': 3, 'distributors': 3, 'trucks': 2, 'pallets': 4, 'hoists': 2, 'crates': 5	1.91
p15	'depots': 3, 'distributors': 3, 'trucks': 2, 'pallets': 5, 'hoists': 2, 'crates': 6	13.20
p16	'depots': 3, 'distributors': 3, 'trucks': 2, 'pallets': 5, 'hoists': 2, 'crates': 7	36.41
p17	'depots': 3, 'distributors': 3, 'trucks': 2, 'pallets': 6, 'hoists': 2, 'crates': 8	180.00
p18	'depots': 3, 'distributors': 3, 'trucks': 2, 'pallets': 6, 'hoists': 2, 'crates': 9	889.82
p19	'depots': 3, 'distributors': 3, 'trucks': 2, 'pallets': 7, 'hoists': 2, 'crates': 10	4398.82
p20	'depots': 3, 'distributors': 3, 'trucks': 2, 'pallets': 8, 'hoists': 2, 'crates': 11	21745.45
p21	'depots': 3, 'distributors': 3, 'trucks': 2, 'pallets': 8, 'hoists': 2, 'crates': 12	107497.98
p22	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 4, 'crates': 5	1.51
p23	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 5, 'crates': 6	6.11
p24	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 5, 'crates': 7	16.92
p25	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 6, 'crates': 8	76.59
p26	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 6, 'crates': 10	279.44
p27	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 7, 'crates': 11	1019.50
p28	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 8, 'crates': 12	3719.56
p29	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 8, 'crates': 13	13570.44
p30	'depots': 3, 'distributors': 2, 'trucks': 2, 'pallets': 2, 'hoists': 9, 'crates': 14	49510.37

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'depots': 9, 'distributors': 2, 'trucks': 2, 'pallets': 16, 'hoists': 2, 'crates': 3	0.70
p02	'depots': 13, 'distributors': 2, 'trucks': 2, 'pallets': 17, 'hoists': 2, 'crates': 4	1.00
p03	'depots': 18, 'distributors': 2, 'trucks': 2, 'pallets': 18, 'hoists': 2, 'crates': 5	2.01
p04	'depots': 22, 'distributors': 2, 'trucks': 2, 'pallets': 20, 'hoists': 2, 'crates': 7	3.98
p05	'depots': 27, 'distributors': 2, 'trucks': 2, 'pallets': 21, 'hoists': 2, 'crates': 8	6.33
p06	'depots': 32, 'distributors': 2, 'trucks': 2, 'pallets': 22, 'hoists': 3, 'crates': 10	12.82
p07	'depots': 36, 'distributors': 2, 'trucks': 2, 'pallets': 24, 'hoists': 3, 'crates': 11	19.06
p08	'depots': 41, 'distributors': 2, 'trucks': 2, 'pallets': 25, 'hoists': 3, 'crates': 12	28.38
p09	'depots': 45, 'distributors': 2, 'trucks': 2, 'pallets': 27, 'hoists': 3, 'crates': 14	42.64
p10	'depots': 50, 'distributors': 2, 'trucks': 2, 'pallets': 28, 'hoists': 3, 'crates': 15	66.18
p11	'depots': 55, 'distributors': 2, 'trucks': 2, 'pallets': 29, 'hoists': 4, 'crates': 17	85.76
p12	'depots': 59, 'distributors': 2, 'trucks': 2, 'pallets': 31, 'hoists': 4, 'crates': 18	107.48
p13	'depots': 64, 'distributors': 2, 'trucks': 2, 'pallets': 32, 'hoists': 4, 'crates': 19	138.26
p14	'depots': 68, 'distributors': 2, 'trucks': 2, 'pallets': 34, 'hoists': 4, 'crates': 21	205.51
p15	'depots': 73, 'distributors': 2, 'trucks': 2, 'pallets': 35, 'hoists': 4, 'crates': 22	305.47
p16	'depots': 77, 'distributors': 2, 'trucks': 2, 'pallets': 36, 'hoists': 5, 'crates': 23	454.05
p17	'depots': 82, 'distributors': 2, 'trucks': 2, 'pallets': 38, 'hoists': 5, 'crates': 25	674.89
p18	'depots': 87, 'distributors': 2, 'trucks': 2, 'pallets': 39, 'hoists': 5, 'crates': 26	1003.14
p19	'depots': 91, 'distributors': 2, 'trucks': 2, 'pallets': 41, 'hoists': 5, 'crates': 28	1491.06
p20	'depots': 96, 'distributors': 2, 'trucks': 2, 'pallets': 42, 'hoists': 5, 'crates': 29	2216.28
p21	'depots': 100, 'distributors': 2, 'trucks': 2, 'pallets': 43, 'hoists': 6, 'crates': 30	3294.25
p22	'depots': 105, 'distributors': 2, 'trucks': 2, 'pallets': 45, 'hoists': 6, 'crates': 32	4896.52
p23	'depots': 110, 'distributors': 2, 'trucks': 2, 'pallets': 46, 'hoists': 6, 'crates': 33	7278.11
p24	'depots': 114, 'distributors': 2, 'trucks': 2, 'pallets': 48, 'hoists': 6, 'crates': 35	10818.08
p25	'depots': 119, 'distributors': 2, 'trucks': 2, 'pallets': 49, 'hoists': 6, 'crates': 36	16079.82
p26	'depots': 123, 'distributors': 2, 'trucks': 2, 'pallets': 50, 'hoists': 7, 'crates': 37	23900.80
p27	'depots': 128, 'distributors': 2, 'trucks': 2, 'pallets': 52, 'hoists': 7, 'crates': 39	35525.78
p28	'depots': 133, 'distributors': 2, 'trucks': 2, 'pallets': 53, 'hoists': 7, 'crates': 40	52804.97
p29	'depots': 137, 'distributors': 2, 'trucks': 2, 'pallets': 55, 'hoists': 7, 'crates': 42	78488.49
p30	'depots': 142, 'distributors': 2, 'trucks': 2, 'pallets': 56, 'hoists': 7, 'crates': 43	116664.08

## 2.6 Driverlog

### Attributes

drivers	Linear(b=[1, 10], m=[0, 5.0])
packages	Linear(b=[2, 15], m=[1, 5])
roadjunctions	Linear(b=[2, 10], m=[0, 5.0])
trucks	Linear(b=[0, 1], m=[0, 1 + drivers])

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	drivers	packages	roadjunctions	trucks	Estimated time
20	1	4 → 23	8 → 27	1	0.53 → 85000.0
5	1 → 2	11 → 16	8 → 10	2 → 3	120.0 → 130000.0
5	1	12 → 16	13 → 18	2	960.0 → 170000.0

### Sequences for agile/satisficing planning

#	drivers	packages	roadjunctions	trucks	Estimated Time
30	4 → 6	12 → 136	10 → 126	4 → 6	0.48 → 82000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'drivers': 1, 'packages': 4, 'roadjunctions': 8, 'trucks': 1	0.53
p02	'drivers': 1, 'packages': 5, 'roadjunctions': 9, 'trucks': 1	0.54
p03	'drivers': 1, 'packages': 6, 'roadjunctions': 10, 'trucks': 1	0.57
p04	'drivers': 1, 'packages': 7, 'roadjunctions': 11, 'trucks': 1	0.58
p05	'drivers': 1, 'packages': 8, 'roadjunctions': 12, 'trucks': 1	0.70
p06	'drivers': 1, 'packages': 9, 'roadjunctions': 13, 'trucks': 1	0.74
p07	'drivers': 1, 'packages': 10, 'roadjunctions': 14, 'trucks': 1	1.39
p08	'drivers': 1, 'packages': 11, 'roadjunctions': 15, 'trucks': 1	1.96
p09	'drivers': 1, 'packages': 12, 'roadjunctions': 16, 'trucks': 1	2.92
p10	'drivers': 1, 'packages': 13, 'roadjunctions': 17, 'trucks': 1	6.06
p11	'drivers': 1, 'packages': 14, 'roadjunctions': 18, 'trucks': 1	11.20
p12	'drivers': 1, 'packages': 15, 'roadjunctions': 19, 'trucks': 1	47.70
p13	'drivers': 1, 'packages': 16, 'roadjunctions': 20, 'trucks': 1	120.71
p14	'drivers': 1, 'packages': 17, 'roadjunctions': 21, 'trucks': 1	240.29
p15	'drivers': 1, 'packages': 18, 'roadjunctions': 22, 'trucks': 1	638.49
p16	'drivers': 1, 'packages': 19, 'roadjunctions': 23, 'trucks': 1	1696.56
p17	'drivers': 1, 'packages': 20, 'roadjunctions': 24, 'trucks': 1	4508.00
p18	'drivers': 1, 'packages': 21, 'roadjunctions': 25, 'trucks': 1	11978.38
p19	'drivers': 1, 'packages': 22, 'roadjunctions': 26, 'trucks': 1	31828.22
p20	'drivers': 1, 'packages': 23, 'roadjunctions': 27, 'trucks': 1	84571.98
p21	'drivers': 1, 'packages': 11, 'roadjunctions': 8, 'trucks': 2	120.77
p22	'drivers': 1, 'packages': 12, 'roadjunctions': 8, 'trucks': 2	168.83
p23	'drivers': 2, 'packages': 13, 'roadjunctions': 9, 'trucks': 3	1540.94
p24	'drivers': 2, 'packages': 15, 'roadjunctions': 9, 'trucks': 3	14064.70
p25	'drivers': 2, 'packages': 16, 'roadjunctions': 10, 'trucks': 3	128373.42
p26	'drivers': 1, 'packages': 12, 'roadjunctions': 13, 'trucks': 2	964.03
p27	'drivers': 1, 'packages': 13, 'roadjunctions': 15, 'trucks': 2	3516.07
p28	'drivers': 1, 'packages': 14, 'roadjunctions': 16, 'trucks': 2	12823.98
p29	'drivers': 1, 'packages': 15, 'roadjunctions': 17, 'trucks': 2	46772.21
p30	'drivers': 1, 'packages': 16, 'roadjunctions': 18, 'trucks': 2	170589.82

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'drivers': 4, 'packages': 12, 'roadjunctions': 10, 'trucks': 4	0.48
p02	'drivers': 4, 'packages': 16, 'roadjunctions': 14, 'trucks': 4	0.91
p03	'drivers': 4, 'packages': 20, 'roadjunctions': 18, 'trucks': 4	1.83
p04	'drivers': 4, 'packages': 24, 'roadjunctions': 22, 'trucks': 4	2.06
p05	'drivers': 4, 'packages': 29, 'roadjunctions': 26, 'trucks': 4	3.71
p06	'drivers': 4, 'packages': 33, 'roadjunctions': 30, 'trucks': 4	4.14
p07	'drivers': 4, 'packages': 37, 'roadjunctions': 34, 'trucks': 4	6.12
p08	'drivers': 4, 'packages': 42, 'roadjunctions': 38, 'trucks': 4	7.46
p09	'drivers': 4, 'packages': 46, 'roadjunctions': 42, 'trucks': 4	9.97
p10	'drivers': 4, 'packages': 50, 'roadjunctions': 46, 'trucks': 4	14.85
p11	'drivers': 4, 'packages': 54, 'roadjunctions': 50, 'trucks': 4	17.41
p12	'drivers': 5, 'packages': 59, 'roadjunctions': 54, 'trucks': 5	39.81
p13	'drivers': 5, 'packages': 63, 'roadjunctions': 58, 'trucks': 5	59.60
p14	'drivers': 5, 'packages': 67, 'roadjunctions': 62, 'trucks': 5	76.87
p15	'drivers': 5, 'packages': 72, 'roadjunctions': 66, 'trucks': 5	125.09
p16	'drivers': 5, 'packages': 76, 'roadjunctions': 70, 'trucks': 5	183.34
p17	'drivers': 5, 'packages': 80, 'roadjunctions': 74, 'trucks': 5	283.59
p18	'drivers': 5, 'packages': 85, 'roadjunctions': 78, 'trucks': 5	438.66
p19	'drivers': 5, 'packages': 89, 'roadjunctions': 82, 'trucks': 5	678.54
p20	'drivers': 5, 'packages': 93, 'roadjunctions': 86, 'trucks': 5	1049.58
p21	'drivers': 5, 'packages': 97, 'roadjunctions': 90, 'trucks': 5	1623.52
p22	'drivers': 6, 'packages': 102, 'roadjunctions': 94, 'trucks': 6	2511.31
p23	'drivers': 6, 'packages': 106, 'roadjunctions': 98, 'trucks': 6	3884.56
p24	'drivers': 6, 'packages': 110, 'roadjunctions': 102, 'trucks': 6	6008.74
p25	'drivers': 6, 'packages': 115, 'roadjunctions': 106, 'trucks': 6	9294.49
p26	'drivers': 6, 'packages': 119, 'roadjunctions': 110, 'trucks': 6	14376.97
p27	'drivers': 6, 'packages': 123, 'roadjunctions': 114, 'trucks': 6	22238.69
p28	'drivers': 6, 'packages': 128, 'roadjunctions': 118, 'trucks': 6	34399.41
p29	'drivers': 6, 'packages': 132, 'roadjunctions': 122, 'trucks': 6	53209.94
p30	'drivers': 6, 'packages': 136, 'roadjunctions': 126, 'trucks': 6	82306.58

## 2.7 Elevators

### Attributes

num_areas	Enum([2, 3, 4])
area_size	Linear(b=[2, 10], m=[0, 1])
passengers	Linear(b=[3, 15], m=[1, 5.0])
fast_elevators	Enum([1, 2, 3])
slow_elevators	Constant(1)
fast_cost	Constant(3)
stop_fast_cost	Constant(1)
fast_capacity	Constant(3)
slow_cost	Constant(1)
stop_slow_cost	Constant(5)
slow_capacity	Constant(2)
Discard Sequences:	Yes
Duplicated Parameters Penalty: 100.0	

### Sequences for optimal planning

#	num_areas	area_size	passengers	fast_elevators	Estimated time
8	2	5	3 → 10	1	1.3 → 86000.0
8	2	3 → 5	3 → 12	2	1.4 → 170000.0
8	3	3 → 4	3 → 11	1	1.6 → 64000.0
6	3	2 → 4	4 → 10	3	7.0 → 91000.0

### Sequences for agile/satisficing planning

#	num_areas	area_size	passengers	fast_elevators	Estimated Time
30	3	6 → 35	3 → 104	1	0.69 → 320000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'num_areas': 2, 'area_size': 5, 'passengers': 3, 'fast_elevators': 1 (for constants see above)	1.26
p02	'num_areas': 2, 'area_size': 5, 'passengers': 4, 'fast_elevators': 1 (for constants see above)	1.36
p03	'num_areas': 2, 'area_size': 5, 'passengers': 5, 'fast_elevators': 1 (for constants see above)	12.20
p04	'num_areas': 2, 'area_size': 5, 'passengers': 6, 'fast_elevators': 1 (for constants see above)	95.05
p05	'num_areas': 2, 'area_size': 5, 'passengers': 7, 'fast_elevators': 1 (for constants see above)	294.52
p06	'num_areas': 2, 'area_size': 5, 'passengers': 8, 'fast_elevators': 1 (for constants see above)	1951.95
p07	'num_areas': 2, 'area_size': 5, 'passengers': 9, 'fast_elevators': 1 (for constants see above)	12936.70
p08	'num_areas': 2, 'area_size': 5, 'passengers': 10, 'fast_elevators': 1 (for constants see above)	85739.16
p09	'num_areas': 2, 'area_size': 3, 'passengers': 3, 'fast_elevators': 2 (for constants see above)	1.40
p10	'num_areas': 2, 'area_size': 3, 'passengers': 4, 'fast_elevators': 2 (for constants see above)	2.24
p11	'num_areas': 2, 'area_size': 3, 'passengers': 5, 'fast_elevators': 2 (for constants see above)	12.43
p12	'num_areas': 2, 'area_size': 4, 'passengers': 6, 'fast_elevators': 2 (for constants see above)	93.70
p13	'num_areas': 2, 'area_size': 4, 'passengers': 8, 'fast_elevators': 2 (for constants see above)	613.34
p14	'num_areas': 2, 'area_size': 5, 'passengers': 9, 'fast_elevators': 2 (for constants see above)	4014.91
p15	'num_areas': 2, 'area_size': 5, 'passengers': 10, 'fast_elevators': 2 (for constants see above)	26281.37
p16	'num_areas': 2, 'area_size': 5, 'passengers': 12, 'fast_elevators': 2 (for constants see above)	172036.52
p17	'num_areas': 3, 'area_size': 3, 'passengers': 3, 'fast_elevators': 1 (for constants see above)	1.65
p18	'num_areas': 3, 'area_size': 3, 'passengers': 4, 'fast_elevators': 1 (for constants see above)	2.61
p19	'num_areas': 3, 'area_size': 3, 'passengers': 5, 'fast_elevators': 1 (for constants see above)	16.55
p20	'num_areas': 3, 'area_size': 3, 'passengers': 6, 'fast_elevators': 1 (for constants see above)	74.47
p21	'num_areas': 3, 'area_size': 3, 'passengers': 7, 'fast_elevators': 1 (for constants see above)	403.25
p22	'num_areas': 3, 'area_size': 4, 'passengers': 9, 'fast_elevators': 1 (for constants see above)	2183.47
p23	'num_areas': 3, 'area_size': 4, 'passengers': 10, 'fast_elevators': 1 (for constants see above)	11822.64
p24	'num_areas': 3, 'area_size': 4, 'passengers': 11, 'fast_elevators': 1 (for constants see above)	64015.11
p25	'num_areas': 3, 'area_size': 2, 'passengers': 3, 'fast_elevators': 3 (for constants see above)	6.99
p26	'num_areas': 3, 'area_size': 2, 'passengers': 5, 'fast_elevators': 3 (for constants see above)	22.60
p27	'num_areas': 3, 'area_size': 3, 'passengers': 6, 'fast_elevators': 3 (for constants see above)	180.00
p28	'num_areas': 3, 'area_size': 3, 'passengers': 8, 'fast_elevators': 3 (for constants see above)	1433.84
p29	'num_areas': 3, 'area_size': 3, 'passengers': 9, 'fast_elevators': 3 (for constants see above)	11421.65
p30	'num_areas': 3, 'area_size': 4, 'passengers': 10, 'fast_elevators': 3 (for constants see above)	90982.29



## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'num_areas': 3, 'area_size': 6, 'passengers': 3, 'fast_elevators': 1 (for constants see above)	0.69
p02	'num_areas': 3, 'area_size': 7, 'passengers': 6, 'fast_elevators': 1 (for constants see above)	0.84
p03	'num_areas': 3, 'area_size': 8, 'passengers': 10, 'fast_elevators': 1 (for constants see above)	1.06
p04	'num_areas': 3, 'area_size': 9, 'passengers': 13, 'fast_elevators': 1 (for constants see above)	1.21
p05	'num_areas': 3, 'area_size': 10, 'passengers': 17, 'fast_elevators': 1 (for constants see above)	1.45
p06	'num_areas': 3, 'area_size': 11, 'passengers': 20, 'fast_elevators': 1 (for constants see above)	1.73
p07	'num_areas': 3, 'area_size': 12, 'passengers': 24, 'fast_elevators': 1 (for constants see above)	2.01
p08	'num_areas': 3, 'area_size': 13, 'passengers': 27, 'fast_elevators': 1 (for constants see above)	2.40
p09	'num_areas': 3, 'area_size': 14, 'passengers': 31, 'fast_elevators': 1 (for constants see above)	2.86
p10	'num_areas': 3, 'area_size': 15, 'passengers': 34, 'fast_elevators': 1 (for constants see above)	3.08
p11	'num_areas': 3, 'area_size': 16, 'passengers': 38, 'fast_elevators': 1 (for constants see above)	3.66
p12	'num_areas': 3, 'area_size': 17, 'passengers': 41, 'fast_elevators': 1 (for constants see above)	4.08
p13	'num_areas': 3, 'area_size': 18, 'passengers': 45, 'fast_elevators': 1 (for constants see above)	4.80
p14	'num_areas': 3, 'area_size': 19, 'passengers': 48, 'fast_elevators': 1 (for constants see above)	5.33
p15	'num_areas': 3, 'area_size': 20, 'passengers': 52, 'fast_elevators': 1 (for constants see above)	6.27
p16	'num_areas': 3, 'area_size': 21, 'passengers': 55, 'fast_elevators': 1 (for constants see above)	6.82
p17	'num_areas': 3, 'area_size': 22, 'passengers': 59, 'fast_elevators': 1 (for constants see above)	7.55
p18	'num_areas': 3, 'area_size': 23, 'passengers': 62, 'fast_elevators': 1 (for constants see above)	8.45
p19	'num_areas': 3, 'area_size': 24, 'passengers': 66, 'fast_elevators': 1 (for constants see above)	9.48
p20	'num_areas': 3, 'area_size': 25, 'passengers': 69, 'fast_elevators': 1 (for constants see above)	10.13
p21	'num_areas': 3, 'area_size': 26, 'passengers': 73, 'fast_elevators': 1 (for constants see above)	11.84
p22	'num_areas': 3, 'area_size': 27, 'passengers': 76, 'fast_elevators': 1 (for constants see above)	14.80
p23	'num_areas': 3, 'area_size': 28, 'passengers': 80, 'fast_elevators': 1 (for constants see above)	129.45
p24	'num_areas': 3, 'area_size': 29, 'passengers': 83, 'fast_elevators': 1 (for constants see above)	395.92
p25	'num_areas': 3, 'area_size': 30, 'passengers': 87, 'fast_elevators': 1 (for constants see above)	1210.93
p26	'num_areas': 3, 'area_size': 31, 'passengers': 90, 'fast_elevators': 1 (for constants see above)	3703.68
p27	'num_areas': 3, 'area_size': 32, 'passengers': 94, 'fast_elevators': 1 (for constants see above)	11327.84
p28	'num_areas': 3, 'area_size': 33, 'passengers': 97, 'fast_elevators': 1 (for constants see above)	34646.64
p29	'num_areas': 3, 'area_size': 34, 'passengers': 101, 'fast_elevators': 1 (for constants see above)	105968.10
p30	'num_areas': 3, 'area_size': 35, 'passengers': 104, 'fast_elevators': 1 (for constants see above)	324107.57

## 2.8 Floortile

### Attributes

grid	Grid(x=[2, 10], m=[0.1, 10])
num_robots	Enum([2, 3, 4, 5])
Adapt parameters:	Ensures that there are no more robots than columns. May cause num_robots to have multiple values accross a sequence
Duplicated Parameters Penalty: 100.0	

### Sequences for optimal planning

#	grid	num_robots	Estimated time
19	2-3 → 5-7	2 → 3	0.93 → 100000.0
11	5-7 → 6-10	2	190.0 → 170000.0

### Sequences for agile/satisficing planning

#	grid	num_robots	Estimated Time
30	2-2 → 40-42	2 → 4	0.21 → 57000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'num_columns': 2, 'num_rows': 3, 'num_robots': 2	0.93
p02	'num_columns': 2, 'num_rows': 4, 'num_robots': 2	1.05
p03	'num_columns': 3, 'num_rows': 3, 'num_robots': 3	1.20
p04	'num_columns': 2, 'num_rows': 5, 'num_robots': 2	1.27
p05	'num_columns': 2, 'num_rows': 6, 'num_robots': 2	1.35
p06	'num_columns': 3, 'num_rows': 4, 'num_robots': 3	1.35
p07	'num_columns': 2, 'num_rows': 7, 'num_robots': 2	2.42
p08	'num_columns': 3, 'num_rows': 5, 'num_robots': 3	4.98
p09	'num_columns': 4, 'num_rows': 4, 'num_robots': 3	7.08
p10	'num_columns': 3, 'num_rows': 6, 'num_robots': 3	12.97
p11	'num_columns': 4, 'num_rows': 5, 'num_robots': 3	20.63
p12	'num_columns': 3, 'num_rows': 7, 'num_robots': 3	49.30
p13	'num_columns': 3, 'num_rows': 8, 'num_robots': 3	50.75
p14	'num_columns': 4, 'num_rows': 6, 'num_robots': 3	180.00
p15	'num_columns': 5, 'num_rows': 5, 'num_robots': 3	638.48
p16	'num_columns': 4, 'num_rows': 7, 'num_robots': 3	2264.79
p17	'num_columns': 5, 'num_rows': 6, 'num_robots': 3	8033.54
p18	'num_columns': 4, 'num_rows': 8, 'num_robots': 3	28496.08
p19	'num_columns': 5, 'num_rows': 7, 'num_robots': 3	101079.54
p20	'num_columns': 5, 'num_rows': 7, 'num_robots': 2	188.44
p21	'num_columns': 4, 'num_rows': 9, 'num_robots': 2	372.05
p22	'num_columns': 5, 'num_rows': 8, 'num_robots': 2	734.60
p23	'num_columns': 6, 'num_rows': 7, 'num_robots': 2	1450.41
p24	'num_columns': 5, 'num_rows': 9, 'num_robots': 2	2863.74
p25	'num_columns': 6, 'num_rows': 8, 'num_robots': 2	5654.28
p26	'num_columns': 7, 'num_rows': 7, 'num_robots': 2	11164.01
p27	'num_columns': 5, 'num_rows': 10, 'num_robots': 2	22042.62
p28	'num_columns': 6, 'num_rows': 9, 'num_robots': 2	43521.73
p29	'num_columns': 7, 'num_rows': 8, 'num_robots': 2	85930.86
p30	'num_columns': 6, 'num_rows': 10, 'num_robots': 2	169664.95

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'num_columns': 2, 'num_rows': 2, 'num_robots': 2	0.21
p02	'num_columns': 2, 'num_rows': 7, 'num_robots': 2	0.21
p03	'num_columns': 5, 'num_rows': 5, 'num_robots': 4	0.26
p04	'num_columns': 6, 'num_rows': 7, 'num_robots': 4	0.37
p05	'num_columns': 7, 'num_rows': 9, 'num_robots': 4	0.62
p06	'num_columns': 7, 'num_rows': 12, 'num_robots': 4	1.02
p07	'num_columns': 10, 'num_rows': 11, 'num_robots': 4	1.95
p08	'num_columns': 11, 'num_rows': 13, 'num_robots': 4	3.27
p09	'num_columns': 11, 'num_rows': 16, 'num_robots': 4	5.31
p10	'num_columns': 14, 'num_rows': 15, 'num_robots': 4	8.68
p11	'num_columns': 15, 'num_rows': 17, 'num_robots': 4	13.98
p12	'num_columns': 17, 'num_rows': 17, 'num_robots': 4	20.15
p13	'num_columns': 17, 'num_rows': 20, 'num_robots': 4	31.41
p14	'num_columns': 18, 'num_rows': 22, 'num_robots': 4	46.32
p15	'num_columns': 21, 'num_rows': 21, 'num_robots': 4	74.42
p16	'num_columns': 21, 'num_rows': 24, 'num_robots': 4	115.64
p17	'num_columns': 22, 'num_rows': 26, 'num_robots': 4	180.00
p18	'num_columns': 25, 'num_rows': 25, 'num_robots': 4	280.19
p19	'num_columns': 25, 'num_rows': 28, 'num_robots': 4	436.15
p20	'num_columns': 26, 'num_rows': 30, 'num_robots': 4	678.93
p21	'num_columns': 29, 'num_rows': 29, 'num_robots': 4	1056.83
p22	'num_columns': 28, 'num_rows': 33, 'num_robots': 4	1645.09
p23	'num_columns': 31, 'num_rows': 32, 'num_robots': 4	2560.78
p24	'num_columns': 32, 'num_rows': 34, 'num_robots': 4	3986.16
p25	'num_columns': 32, 'num_rows': 37, 'num_robots': 4	6204.95
p26	'num_columns': 35, 'num_rows': 36, 'num_robots': 4	9658.76
p27	'num_columns': 36, 'num_rows': 38, 'num_robots': 4	15035.04
p28	'num_columns': 36, 'num_rows': 41, 'num_robots': 4	23403.87
p29	'num_columns': 39, 'num_rows': 40, 'num_robots': 4	36430.98
p30	'num_columns': 40, 'num_rows': 42, 'num_robots': 4	56709.28

## 2.9 Grid

### Attributes

grid	Grid(x=[3, 10], m=[0.1, 10])
prob_key_in_goal	Enum([0.5, 0.75, 1])
shapes	Linear(b=[1, 5], m=[0, 1])
extra_keys	Linear(b=[1, 5], m=[0, 3])
percentage_cells_locked	Enum([0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9])
Adapt parameters:	Ensure that there are no more shapes/keys/locks than cells, and no more shapes than locks
Duplicated Parameters Penalty: 100.0	

### Sequences for optimal planning

#	grid	prob_key_in_goal	shapes	extra_keys	percentage_cells_locked	Estimated time
30	3-3 → 11-11	0.5	1	5	0.5	1.0 → 79000.0

### Sequences for agile/satisficing planning

#	grid	prob_key_in_goal	shapes	extra_keys	percentage_cells_locked	Estimated Time
30	7-7 → 140-140	0.5	2 → 7	1	0.5	0.67 → 88000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'x': 3, 'y': 3, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 4	1.02
p02	'x': 3, 'y': 4, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 6	1.78
p03	'x': 3, 'y': 5, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 7	2.48
p04	'x': 4, 'y': 4, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 8	3.79
p05	'x': 3, 'y': 6, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 9	5.35
p06	'x': 4, 'y': 5, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 10	7.45
p07	'x': 4, 'y': 6, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 12	17.30
p08	'x': 5, 'y': 5, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 12	17.91
p09	'x': 4, 'y': 7, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 14	41.18
p10	'x': 5, 'y': 6, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 15	53.49
p11	'x': 5, 'y': 7, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 17	74.11
p12	'x': 5, 'y': 8, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 20	90.07
p13	'x': 6, 'y': 7, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 21	94.55
p14	'x': 6, 'y': 8, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 24	106.07
p15	'x': 7, 'y': 7, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 24	185.29
p16	'x': 6, 'y': 9, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 27	277.45
p17	'x': 7, 'y': 8, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 28	415.43
p18	'x': 7, 'y': 9, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 31	622.05
p19	'x': 8, 'y': 8, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 32	931.41
p20	'x': 7, 'y': 10, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 35	1394.64
p21	'x': 8, 'y': 10, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 40	2088.26
p22	'x': 9, 'y': 9, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 40	3126.84
p23	'x': 8, 'y': 11, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 44	4681.94
p24	'x': 9, 'y': 10, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 45	7010.46
p25	'x': 9, 'y': 11, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 49	10497.05
p26	'x': 10, 'y': 10, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 50	15717.66
p27	'x': 9, 'y': 12, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 54	23534.70
p28	'x': 10, 'y': 11, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 55	35239.47
p29	'x': 10, 'y': 12, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 60	52765.51
p30	'x': 11, 'y': 11, 'prob_key_in_goal': 0.5, 'shapes': 1, 'extra_keys': 5, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 60	79007.97

### Tasks for agile/satisficing planning

name	config	estimated_time
p01	'x': 7, 'y': 7, 'prob_key_in_goal': 0.5, 'shapes': 2, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 3, 'locks': 24	0.67
p02	'x': 11, 'y': 11, 'prob_key_in_goal': 0.5, 'shapes': 2, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 3, 'locks': 60	1.07
p03	'x': 16, 'y': 16, 'prob_key_in_goal': 0.5, 'shapes': 2, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 3, 'locks': 128	1.60
p04	'x': 20, 'y': 20, 'prob_key_in_goal': 0.5, 'shapes': 2, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 3, 'locks': 200	2.29
p05	'x': 25, 'y': 25, 'prob_key_in_goal': 0.5, 'shapes': 2, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 3, 'locks': 312	3.52
p06	'x': 30, 'y': 30, 'prob_key_in_goal': 0.5, 'shapes': 3, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 4, 'locks': 450	6.84
p07	'x': 34, 'y': 34, 'prob_key_in_goal': 0.5, 'shapes': 3, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 4, 'locks': 578	8.21
p08	'x': 39, 'y': 39, 'prob_key_in_goal': 0.5, 'shapes': 3, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 4, 'locks': 760	13.66
p09	'x': 43, 'y': 43, 'prob_key_in_goal': 0.5, 'shapes': 3, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 4, 'locks': 924	15.98
p10	'x': 48, 'y': 48, 'prob_key_in_goal': 0.5, 'shapes': 3, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 4, 'locks': 1152	47.98
p11	'x': 53, 'y': 53, 'prob_key_in_goal': 0.5, 'shapes': 4, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 5, 'locks': 1404	51.38
p12	'x': 57, 'y': 57, 'prob_key_in_goal': 0.5, 'shapes': 4, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 5, 'locks': 1624	63.25
p13	'x': 62, 'y': 62, 'prob_key_in_goal': 0.5, 'shapes': 4, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 5, 'locks': 1922	99.23
p14	'x': 66, 'y': 66, 'prob_key_in_goal': 0.5, 'shapes': 4, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 5, 'locks': 2178	139.82
p15	'x': 71, 'y': 71, 'prob_key_in_goal': 0.5, 'shapes': 4, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 5, 'locks': 2520	153.72
p16	'x': 76, 'y': 76, 'prob_key_in_goal': 0.5, 'shapes': 5, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 2888	234.74
p17	'x': 80, 'y': 80, 'prob_key_in_goal': 0.5, 'shapes': 5, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 3200	358.47
p18	'x': 85, 'y': 85, 'prob_key_in_goal': 0.5, 'shapes': 5, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 3612	547.40
p19	'x': 89, 'y': 89, 'prob_key_in_goal': 0.5, 'shapes': 5, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 3960	835.91
p20	'x': 94, 'y': 94, 'prob_key_in_goal': 0.5, 'shapes': 5, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 6, 'locks': 4418	1276.48
p21	'x': 98, 'y': 98, 'prob_key_in_goal': 0.5, 'shapes': 6, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 7, 'locks': 4802	1949.26
p22	'x': 103, 'y': 103, 'prob_key_in_goal': 0.5, 'shapes': 6, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 7, 'locks': 5304	2976.63
p23	'x': 108, 'y': 108, 'prob_key_in_goal': 0.5, 'shapes': 6, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 7, 'locks': 5832	4545.49
p24	'x': 112, 'y': 112, 'prob_key_in_goal': 0.5, 'shapes': 6, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 7, 'locks': 6272	6941.22
p25	'x': 117, 'y': 117, 'prob_key_in_goal': 0.5, 'shapes': 6, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 7, 'locks': 6844	10599.63
p26	'x': 121, 'y': 121, 'prob_key_in_goal': 0.5, 'shapes': 7, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 8, 'locks': 7320	16186.24
p27	'x': 126, 'y': 126, 'prob_key_in_goal': 0.5, 'shapes': 7, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 8, 'locks': 7938	24717.30
p28	'x': 131, 'y': 131, 'prob_key_in_goal': 0.5, 'shapes': 7, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 8, 'locks': 8580	37744.71
p29	'x': 135, 'y': 135, 'prob_key_in_goal': 0.5, 'shapes': 7, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 8, 'locks': 9112	57638.30
p30	'x': 140, 'y': 140, 'prob_key_in_goal': 0.5, 'shapes': 7, 'extra_keys': 1, 'percentage_cells_locked': 0.5, 'keys': 8, 'locks': 9800	88016.95

## 2.10 Gripper

### Attributes

n	Linear(b=[8, 20], m=[0.1, 5.0])
---	---------------------------------

Duplicated Parameters Penalty: inf

### Sequences for optimal planning

#	n	Estimated time
30	8 → 37	1.4 → 490000000.0

### Sequences for agile/satisficing planning

#	n	Estimated Time
30	20 → 165	0.59 → 82.0

### Tasks for optimal planning

name	config	estimated_time
p01	'n': 8	1.44
p02	'n': 9	1.56
p03	'n': 10	1.59
p04	'n': 11	1.89
p05	'n': 12	3.18
p06	'n': 13	3.20
p07	'n': 14	6.65
p08	'n': 15	14.19
p09	'n': 16	31.17
p10	'n': 17	69.96
p11	'n': 18	155.29
p12	'n': 19	341.39
p13	'n': 20	750.49
p14	'n': 21	1649.84
p15	'n': 22	3626.93
p16	'n': 23	7973.29
p17	'n': 24	17528.12
p18	'n': 25	38533.03
p19	'n': 26	84709.27
p20	'n': 27	186221.04
p21	'n': 28	409379.94
p22	'n': 29	899962.38
p23	'n': 30	1978436.71
p24	'n': 31	4349306.02
p25	'n': 32	9561318.18
p26	'n': 33	21019170.60
p27	'n': 34	46207596.54
p28	'n': 35	101580695.94
p29	'n': 36	223310419.95
p30	'n': 37	490915554.35

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'n': 20	0.59
p02	'n': 25	0.65
p03	'n': 30	0.66
p04	'n': 35	0.74
p05	'n': 40	0.90
p06	'n': 45	1.09
p07	'n': 50	1.39
p08	'n': 55	1.75
p09	'n': 60	2.18
p10	'n': 65	2.82
p11	'n': 70	3.51
p12	'n': 75	4.38
p13	'n': 80	5.53
p14	'n': 85	6.77
p15	'n': 90	8.33
p16	'n': 95	10.22
p17	'n': 100	12.16
p18	'n': 105	14.57
p19	'n': 110	17.41
p20	'n': 115	20.58
p21	'n': 120	24.13
p22	'n': 125	28.28
p23	'n': 130	32.87
p24	'n': 135	37.89
p25	'n': 140	43.78
p26	'n': 145	50.11
p27	'n': 150	57.26
p28	'n': 155	64.94
p29	'n': 160	73.49
p30	'n': 165	82.45

## 2.11 Hiking

### Attributes

n_couples	Linear(b=[1, 10], m=[0, 5.0])
n_places	Linear(b=[2, 20], m=[0.1, 5.0])
n_cars	Linear(b=[1, 5], m=[0, 5.0 + n_couples])

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	n_couples	n_places	n_cars	Estimated time
8	2	2 → 6	3 → 12	0.66 → 57000.0
7	2	3 → 9	3	1.6 → 46000.0
15	1	14 → 28	3	88.0 → 110000.0

### Sequences for agile/satisficing planning

#	n_couples	n_places	n_cars	Estimated Time
16	1	10 → 25	4 → 6	2.3 → 19000.0
14	2	9 → 23	8 → 13	18.0 → 48000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'n_couples': 2, 'n_places': 2, 'n_cars': 3	0.66
p02	'n_couples': 2, 'n_places': 2, 'n_cars': 4	0.71
p03	'n_couples': 2, 'n_places': 3, 'n_cars': 5	2.04
p04	'n_couples': 2, 'n_places': 4, 'n_cars': 7	9.53
p05	'n_couples': 2, 'n_places': 4, 'n_cars': 8	10.12
p06	'n_couples': 2, 'n_places': 5, 'n_cars': 10	180.00
p07	'n_couples': 2, 'n_places': 6, 'n_cars': 11	3201.58
p08	'n_couples': 2, 'n_places': 6, 'n_cars': 12	56945.12
p09	'n_couples': 2, 'n_places': 3, 'n_cars': 3	1.58
p10	'n_couples': 2, 'n_places': 4, 'n_cars': 3	5.50
p11	'n_couples': 2, 'n_places': 5, 'n_cars': 3	28.31
p12	'n_couples': 2, 'n_places': 6, 'n_cars': 3	180.00
p13	'n_couples': 2, 'n_places': 7, 'n_cars': 3	1144.63
p14	'n_couples': 2, 'n_places': 8, 'n_cars': 3	7278.73
p15	'n_couples': 2, 'n_places': 9, 'n_cars': 3	46285.76
p16	'n_couples': 1, 'n_places': 14, 'n_cars': 3	87.99
p17	'n_couples': 1, 'n_places': 15, 'n_cars': 3	145.78
p18	'n_couples': 1, 'n_places': 16, 'n_cars': 3	243.06
p19	'n_couples': 1, 'n_places': 17, 'n_cars': 3	405.26
p20	'n_couples': 1, 'n_places': 18, 'n_cars': 3	675.70
p21	'n_couples': 1, 'n_places': 19, 'n_cars': 3	1126.61
p22	'n_couples': 1, 'n_places': 20, 'n_cars': 3	1878.44
p23	'n_couples': 1, 'n_places': 21, 'n_cars': 3	3131.99
p24	'n_couples': 1, 'n_places': 22, 'n_cars': 3	5222.07
p25	'n_couples': 1, 'n_places': 23, 'n_cars': 3	8706.92
p26	'n_couples': 1, 'n_places': 24, 'n_cars': 3	14517.34
p27	'n_couples': 1, 'n_places': 25, 'n_cars': 3	24205.24
p28	'n_couples': 1, 'n_places': 26, 'n_cars': 3	40358.20
p29	'n_couples': 1, 'n_places': 27, 'n_cars': 3	67290.56
p30	'n_couples': 1, 'n_places': 28, 'n_cars': 3	112195.78



## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'n_couples': 1, 'n_places': 10, 'n_cars': 4	2.33
p02	'n_couples': 1, 'n_places': 11, 'n_cars': 4	3.13
p03	'n_couples': 1, 'n_places': 12, 'n_cars': 4	4.52
p04	'n_couples': 1, 'n_places': 13, 'n_cars': 4	7.11
p05	'n_couples': 1, 'n_places': 14, 'n_cars': 4	10.69
p06	'n_couples': 1, 'n_places': 15, 'n_cars': 4	17.45
p07	'n_couples': 1, 'n_places': 16, 'n_cars': 5	29.50
p08	'n_couples': 1, 'n_places': 17, 'n_cars': 5	43.88
p09	'n_couples': 1, 'n_places': 18, 'n_cars': 5	63.59
p10	'n_couples': 1, 'n_places': 19, 'n_cars': 5	278.99
p11	'n_couples': 1, 'n_places': 20, 'n_cars': 5	564.98
p12	'n_couples': 1, 'n_places': 21, 'n_cars': 5	1144.14
p13	'n_couples': 1, 'n_places': 22, 'n_cars': 5	2317.01
p14	'n_couples': 1, 'n_places': 23, 'n_cars': 5	4692.17
p15	'n_couples': 1, 'n_places': 24, 'n_cars': 5	9502.12
p16	'n_couples': 1, 'n_places': 25, 'n_cars': 6	19242.75
p17	'n_couples': 2, 'n_places': 9, 'n_cars': 8	18.38
p18	'n_couples': 2, 'n_places': 10, 'n_cars': 8	25.02
p19	'n_couples': 2, 'n_places': 11, 'n_cars': 9	43.24
p20	'n_couples': 2, 'n_places': 12, 'n_cars': 9	64.80
p21	'n_couples': 2, 'n_places': 13, 'n_cars': 9	89.62
p22	'n_couples': 2, 'n_places': 14, 'n_cars': 10	180.00
p23	'n_couples': 2, 'n_places': 15, 'n_cars': 10	361.51
p24	'n_couples': 2, 'n_places': 16, 'n_cars': 11	726.06
p25	'n_couples': 2, 'n_places': 18, 'n_cars': 11	1458.23
p26	'n_couples': 2, 'n_places': 19, 'n_cars': 11	2928.72
p27	'n_couples': 2, 'n_places': 20, 'n_cars': 12	5882.06
p28	'n_couples': 2, 'n_places': 21, 'n_cars': 12	11813.57
p29	'n_couples': 2, 'n_places': 22, 'n_cars': 13	23726.43
p30	'n_couples': 2, 'n_places': 23, 'n_cars': 13	47652.29

## 2.12 Logistics

### Attributes

num_airplanes	Linear(b=[1, 5], m=[0, 1])
num_cities	Linear(b=[2, 10], m=[0, 2])
city_size	Linear(b=[2, 15], m=[0, 2])
num_packages	Linear(b=[1, 30], m=[1, 10])
extra_trucks	Linear(b=[1, 10], m=[0, 2])
Adapt parameters:	Yes
Discard Sequences:	Yes
Duplicated Parameters Penalty: 100.0	

### Sequences for optimal planning

#	num_airplanes	num_cities	city_size	num_packages	extra_trucks	Estimated time
9	2	2	2 → 16	2 → 12	4	0.47 → 360000.0
7	2 → 8	2 → 3	2 → 6	1 → 14	1 → 8	0.47 → 1100000.0
7	3	2 → 6	7	1 → 10	9 → 13	0.49 → 130000.0
7	2 → 8	2	3 → 13	3 → 12	6 → 18	0.5 → 130000.0

### Sequences for agile/satisficing planning

#	num_airplanes	num_cities	city_size	num_packages	extra_trucks	Estimated Time
30	5 → 34	8 → 66	15 → 32	3 → 98	3 → 14	1.3 → 15000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'num_airplanes': 2, 'num_cities': 2, 'city_size': 2, 'num_packages': 2, 'extra_trucks': 4, 'num_trucks': 6	0.47
p02	'num_airplanes': 2, 'num_cities': 2, 'city_size': 3, 'num_packages': 3, 'extra_trucks': 4, 'num_trucks': 6	0.50
p03	'num_airplanes': 2, 'num_cities': 2, 'city_size': 5, 'num_packages': 4, 'extra_trucks': 4, 'num_trucks': 6	0.52
p04	'num_airplanes': 2, 'num_cities': 2, 'city_size': 7, 'num_packages': 5, 'extra_trucks': 4, 'num_trucks': 6	0.57
p05	'num_airplanes': 2, 'num_cities': 2, 'city_size': 9, 'num_packages': 7, 'extra_trucks': 4, 'num_trucks': 6	1.15
p06	'num_airplanes': 2, 'num_cities': 2, 'city_size': 11, 'num_packages': 8, 'extra_trucks': 4, 'num_trucks': 6	121.83
p07	'num_airplanes': 2, 'num_cities': 2, 'city_size': 12, 'num_packages': 9, 'extra_trucks': 4, 'num_trucks': 6	125.97
p08	'num_airplanes': 2, 'num_cities': 2, 'city_size': 14, 'num_packages': 11, 'extra_trucks': 4, 'num_trucks': 6	6737.52
p09	'num_airplanes': 2, 'num_cities': 2, 'city_size': 16, 'num_packages': 12, 'extra_trucks': 4, 'num_trucks': 6	360357.11
p10	'num_airplanes': 2, 'num_cities': 2, 'city_size': 2, 'num_packages': 1, 'extra_trucks': 1, 'num_trucks': 3	0.47
p11	'num_airplanes': 3, 'num_cities': 2, 'city_size': 2, 'num_packages': 3, 'extra_trucks': 2, 'num_trucks': 4	0.48
p12	'num_airplanes': 4, 'num_cities': 2, 'city_size': 3, 'num_packages': 5, 'extra_trucks': 3, 'num_trucks': 5	0.54
p13	'num_airplanes': 5, 'num_cities': 2, 'city_size': 4, 'num_packages': 7, 'extra_trucks': 4, 'num_trucks': 6	0.62
p14	'num_airplanes': 6, 'num_cities': 2, 'city_size': 5, 'num_packages': 9, 'extra_trucks': 5, 'num_trucks': 7	120.81
p15	'num_airplanes': 7, 'num_cities': 3, 'city_size': 5, 'num_packages': 12, 'extra_trucks': 7, 'num_trucks': 10	11746.03
p16	'num_airplanes': 8, 'num_cities': 3, 'city_size': 6, 'num_packages': 14, 'extra_trucks': 8, 'num_trucks': 11	1142034.79
p17	'num_airplanes': 3, 'num_cities': 2, 'city_size': 7, 'num_packages': 1, 'extra_trucks': 9, 'num_trucks': 11	0.49
p18	'num_airplanes': 3, 'num_cities': 2, 'city_size': 7, 'num_packages': 2, 'extra_trucks': 9, 'num_trucks': 11	0.52
p19	'num_airplanes': 3, 'num_cities': 3, 'city_size': 7, 'num_packages': 4, 'extra_trucks': 10, 'num_trucks': 13	0.85
p20	'num_airplanes': 3, 'num_cities': 4, 'city_size': 7, 'num_packages': 5, 'extra_trucks': 11, 'num_trucks': 15	6.77
p21	'num_airplanes': 3, 'num_cities': 5, 'city_size': 7, 'num_packages': 7, 'extra_trucks': 12, 'num_trucks': 17	180.00
p22	'num_airplanes': 3, 'num_cities': 5, 'city_size': 7, 'num_packages': 8, 'extra_trucks': 13, 'num_trucks': 18	4785.82
p23	'num_airplanes': 3, 'num_cities': 6, 'city_size': 7, 'num_packages': 10, 'extra_trucks': 13, 'num_trucks': 19	127244.84
p24	'num_airplanes': 2, 'num_cities': 2, 'city_size': 3, 'num_packages': 3, 'extra_trucks': 6, 'num_trucks': 8	0.50
p25	'num_airplanes': 3, 'num_cities': 2, 'city_size': 5, 'num_packages': 5, 'extra_trucks': 8, 'num_trucks': 10	0.54
p26	'num_airplanes': 4, 'num_cities': 2, 'city_size': 7, 'num_packages': 6, 'extra_trucks': 10, 'num_trucks': 12	0.73
p27	'num_airplanes': 5, 'num_cities': 2, 'city_size': 8, 'num_packages': 8, 'extra_trucks': 12, 'num_trucks': 14	1.97
p28	'num_airplanes': 6, 'num_cities': 2, 'city_size': 10, 'num_packages': 9, 'extra_trucks': 14, 'num_trucks': 16	123.83
p29	'num_airplanes': 7, 'num_cities': 2, 'city_size': 12, 'num_packages': 11, 'extra_trucks': 16, 'num_trucks': 18	4062.08
p30	'num_airplanes': 8, 'num_cities': 2, 'city_size': 13, 'num_packages': 12, 'extra_trucks': 18, 'num_trucks': 20	133251.48

### Tasks for agile/satisficing planning

name	config	estimated_time
p01	'num_airplanes': 5, 'num_cities': 8, 'city_size': 15, 'num_packages': 3, 'extra_trucks': 3, 'num_trucks': 11	1.29
p02	'num_airplanes': 6, 'num_cities': 10, 'city_size': 15, 'num_packages': 6, 'extra_trucks': 3, 'num_trucks': 13	1.97
p03	'num_airplanes': 7, 'num_cities': 12, 'city_size': 16, 'num_packages': 9, 'extra_trucks': 3, 'num_trucks': 15	3.27
p04	'num_airplanes': 8, 'num_cities': 14, 'city_size': 16, 'num_packages': 12, 'extra_trucks': 4, 'num_trucks': 18	5.27
p05	'num_airplanes': 9, 'num_cities': 16, 'city_size': 17, 'num_packages': 16, 'extra_trucks': 4, 'num_trucks': 20	8.07
p06	'num_airplanes': 10, 'num_cities': 18, 'city_size': 18, 'num_packages': 19, 'extra_trucks': 5, 'num_trucks': 23	11.75
p07	'num_airplanes': 11, 'num_cities': 20, 'city_size': 18, 'num_packages': 22, 'extra_trucks': 5, 'num_trucks': 25	17.49
p08	'num_airplanes': 12, 'num_cities': 22, 'city_size': 19, 'num_packages': 26, 'extra_trucks': 5, 'num_trucks': 27	25.46
p09	'num_airplanes': 13, 'num_cities': 24, 'city_size': 19, 'num_packages': 29, 'extra_trucks': 6, 'num_trucks': 30	31.96
p10	'num_airplanes': 14, 'num_cities': 26, 'city_size': 20, 'num_packages': 32, 'extra_trucks': 6, 'num_trucks': 32	43.04
p11	'num_airplanes': 15, 'num_cities': 28, 'city_size': 21, 'num_packages': 36, 'extra_trucks': 7, 'num_trucks': 35	60.75
p12	'num_airplanes': 16, 'num_cities': 30, 'city_size': 21, 'num_packages': 39, 'extra_trucks': 7, 'num_trucks': 37	74.54
p13	'num_airplanes': 17, 'num_cities': 32, 'city_size': 22, 'num_packages': 42, 'extra_trucks': 7, 'num_trucks': 39	99.86
p14	'num_airplanes': 18, 'num_cities': 34, 'city_size': 22, 'num_packages': 45, 'extra_trucks': 8, 'num_trucks': 42	124.48
p15	'num_airplanes': 19, 'num_cities': 36, 'city_size': 23, 'num_packages': 49, 'extra_trucks': 8, 'num_trucks': 44	160.76
p16	'num_airplanes': 20, 'num_cities': 38, 'city_size': 24, 'num_packages': 52, 'extra_trucks': 9, 'num_trucks': 47	217.32
p17	'num_airplanes': 21, 'num_cities': 40, 'city_size': 24, 'num_packages': 55, 'extra_trucks': 9, 'num_trucks': 49	293.78
p18	'num_airplanes': 22, 'num_cities': 42, 'city_size': 25, 'num_packages': 59, 'extra_trucks': 9, 'num_trucks': 51	397.14
p19	'num_airplanes': 23, 'num_cities': 44, 'city_size': 25, 'num_packages': 62, 'extra_trucks': 10, 'num_trucks': 54	536.87
p20	'num_airplanes': 24, 'num_cities': 46, 'city_size': 26, 'num_packages': 65, 'extra_trucks': 10, 'num_trucks': 56	725.76
p21	'num_airplanes': 25, 'num_cities': 48, 'city_size': 27, 'num_packages': 68, 'extra_trucks': 11, 'num_trucks': 59	981.10
p22	'num_airplanes': 26, 'num_cities': 50, 'city_size': 27, 'num_packages': 72, 'extra_trucks': 11, 'num_trucks': 61	1326.28
p23	'num_airplanes': 27, 'num_cities': 52, 'city_size': 28, 'num_packages': 75, 'extra_trucks': 11, 'num_trucks': 63	1792.91
p24	'num_airplanes': 28, 'num_cities': 54, 'city_size': 28, 'num_packages': 78, 'extra_trucks': 12, 'num_trucks': 66	2423.71
p25	'num_airplanes': 29, 'num_cities': 56, 'city_size': 29, 'num_packages': 82, 'extra_trucks': 12, 'num_trucks': 68	3276.45
p26	'num_airplanes': 30, 'num_cities': 58, 'city_size': 30, 'num_packages': 85, 'extra_trucks': 13, 'num_trucks': 71	4429.21
p27	'num_airplanes': 31, 'num_cities': 60, 'city_size': 30, 'num_packages': 88, 'extra_trucks': 13, 'num_trucks': 73	5987.54
p28	'num_airplanes': 32, 'num_cities': 62, 'city_size': 31, 'num_packages': 92, 'extra_trucks': 13, 'num_trucks': 75	8094.15
p29	'num_airplanes': 33, 'num_cities': 64, 'city_size': 31, 'num_packages': 95, 'extra_trucks': 14, 'num_trucks': 78	10941.92
p30	'num_airplanes': 34, 'num_cities': 66, 'city_size': 32, 'num_packages': 98, 'extra_trucks': 14, 'num_trucks': 80	14791.64

## 2.13 Miconic

### Attributes

passengers	Linear(b=[5, 20], m=[0.1, 5])
floors	Linear(b=[5, 15], m=[0, 5])

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	passengers	floors	Estimated time
30	8 → 60	6 → 61	0.5 → 130000.0

### Sequences for agile/satisficing planning

#	passengers	floors	Estimated Time
30	19 → 155	11 → 124	0.53 → 19.0

### Tasks for optimal planning

name	config	estimated_time
p01	'passengers': 8, 'floors': 6	0.50
p02	'passengers': 9, 'floors': 7	0.52
p03	'passengers': 11, 'floors': 9	0.53
p04	'passengers': 13, 'floors': 11	0.59
p05	'passengers': 15, 'floors': 13	0.69
p06	'passengers': 17, 'floors': 15	0.87
p07	'passengers': 18, 'floors': 17	1.72
p08	'passengers': 20, 'floors': 19	9.91
p09	'passengers': 22, 'floors': 21	15.84
p10	'passengers': 24, 'floors': 23	47.86
p11	'passengers': 26, 'floors': 24	62.49
p12	'passengers': 27, 'floors': 26	81.25
p13	'passengers': 29, 'floors': 28	120.62
p14	'passengers': 31, 'floors': 30	137.50
p15	'passengers': 33, 'floors': 32	153.41
p16	'passengers': 35, 'floors': 34	240.34
p17	'passengers': 36, 'floors': 36	376.51
p18	'passengers': 38, 'floors': 38	589.84
p19	'passengers': 40, 'floors': 40	924.04
p20	'passengers': 42, 'floors': 42	1447.60
p21	'passengers': 43, 'floors': 43	2267.80
p22	'passengers': 45, 'floors': 45	3552.72
p23	'passengers': 47, 'floors': 47	5565.67
p24	'passengers': 49, 'floors': 49	8719.16
p25	'passengers': 51, 'floors': 51	13659.40
p26	'passengers': 52, 'floors': 53	21398.75
p27	'passengers': 54, 'floors': 55	33523.18
p28	'passengers': 56, 'floors': 57	52517.26
p29	'passengers': 58, 'floors': 59	82273.29
p30	'passengers': 60, 'floors': 61	128888.96

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'passengers': 19, 'floors': 11	0.53
p02	'passengers': 23, 'floors': 14	0.54
p03	'passengers': 28, 'floors': 18	0.56
p04	'passengers': 33, 'floors': 22	0.59
p05	'passengers': 37, 'floors': 26	0.69
p06	'passengers': 42, 'floors': 30	0.69
p07	'passengers': 47, 'floors': 34	0.72
p08	'passengers': 51, 'floors': 38	0.75
p09	'passengers': 56, 'floors': 42	0.85
p10	'passengers': 61, 'floors': 46	0.90
p11	'passengers': 66, 'floors': 49	1.05
p12	'passengers': 70, 'floors': 53	1.16
p13	'passengers': 75, 'floors': 57	1.24
p14	'passengers': 80, 'floors': 61	1.37
p15	'passengers': 84, 'floors': 65	1.54
p16	'passengers': 89, 'floors': 69	1.78
p17	'passengers': 94, 'floors': 73	2.09
p18	'passengers': 98, 'floors': 77	2.38
p19	'passengers': 103, 'floors': 81	2.46
p20	'passengers': 108, 'floors': 85	2.79
p21	'passengers': 113, 'floors': 89	3.20
p22	'passengers': 117, 'floors': 92	3.42
p23	'passengers': 122, 'floors': 96	3.87
p24	'passengers': 127, 'floors': 100	4.27
p25	'passengers': 131, 'floors': 104	4.72
p26	'passengers': 136, 'floors': 108	6.08
p27	'passengers': 141, 'floors': 112	6.42
p28	'passengers': 145, 'floors': 116	7.24
p29	'passengers': 150, 'floors': 120	7.80
p30	'passengers': 155, 'floors': 124	19.44

## 2.14 Nomystery

### Attributes

locations	Linear(b=[3, 10], m=[0.1, 1])
packages	Linear(b=[2, 20], m=[1, 5.0])
edgefactor	Constant(1.5)
edgeweight	Constant(25)
constrainedness	Enum([1.1, 1.5, 2.0])

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	locations	packages	constrainedness	Estimated time
30	7 → 12	3 → 40	1.5	0.94 → 49000.0

### Sequences for agile/satisficing planning

#	locations	packages	constrainedness	Estimated Time
15	14 → 28	9 → 27	2.0	4.4 → 19000.0
15	16 → 21	46 → 86	1.5	50.0 → 100000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'locations': 7, 'packages': 3, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	0.94
p02	'locations': 7, 'packages': 4, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	1.02
p03	'locations': 7, 'packages': 5, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	1.07
p04	'locations': 7, 'packages': 6, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	1.14
p05	'locations': 7, 'packages': 8, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	1.35
p06	'locations': 8, 'packages': 9, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	2.33
p07	'locations': 8, 'packages': 10, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	3.40
p08	'locations': 8, 'packages': 12, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	5.82
p09	'locations': 8, 'packages': 13, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	8.80
p10	'locations': 8, 'packages': 14, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	11.01
p11	'locations': 8, 'packages': 16, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	16.30
p12	'locations': 9, 'packages': 17, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	35.58
p13	'locations': 9, 'packages': 18, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	71.39
p14	'locations': 9, 'packages': 19, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	106.72
p15	'locations': 9, 'packages': 21, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	122.88
p16	'locations': 9, 'packages': 22, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	135.21
p17	'locations': 10, 'packages': 23, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	206.07
p18	'locations': 10, 'packages': 25, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	314.06
p19	'locations': 10, 'packages': 26, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	478.64
p20	'locations': 10, 'packages': 27, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	729.47
p21	'locations': 10, 'packages': 29, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	1111.75
p22	'locations': 11, 'packages': 30, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	1694.35
p23	'locations': 11, 'packages': 31, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	2582.26
p24	'locations': 11, 'packages': 32, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	3935.46
p25	'locations': 11, 'packages': 34, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	5997.81
p26	'locations': 11, 'packages': 35, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	9140.91
p27	'locations': 12, 'packages': 36, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	13931.12
p28	'locations': 12, 'packages': 38, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	21231.59
p29	'locations': 12, 'packages': 39, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	32357.81
p30	'locations': 12, 'packages': 40, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	49314.64

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'locations': 14, 'packages': 9, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 2.0	4.40
p02	'locations': 15, 'packages': 10, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 2.0	4.60
p03	'locations': 16, 'packages': 12, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 2.0	6.42
p04	'locations': 17, 'packages': 13, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 2.0	7.01
p05	'locations': 18, 'packages': 14, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 2.0	7.69
p06	'locations': 19, 'packages': 16, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 2.0	9.73
p07	'locations': 20, 'packages': 17, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 2.0	10.47
p08	'locations': 21, 'packages': 18, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 2.0	11.73
p09	'locations': 22, 'packages': 19, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 2.0	12.25
p10	'locations': 23, 'packages': 21, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 2.0	14.93
p11	'locations': 24, 'packages': 22, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 2.0	16.88
p12	'locations': 25, 'packages': 23, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 2.0	17.51
p13	'locations': 26, 'packages': 25, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 2.0	180.00
p14	'locations': 27, 'packages': 26, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 2.0	1850.02
p15	'locations': 28, 'packages': 27, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 2.0	19014.28
p16	'locations': 16, 'packages': 46, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	49.78
p17	'locations': 16, 'packages': 49, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	69.41
p18	'locations': 16, 'packages': 52, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	203.16
p19	'locations': 17, 'packages': 55, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	341.11
p20	'locations': 17, 'packages': 58, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	572.73
p21	'locations': 17, 'packages': 60, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	961.63
p22	'locations': 18, 'packages': 63, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	1614.60
p23	'locations': 18, 'packages': 66, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	2710.96
p24	'locations': 19, 'packages': 69, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	4551.78
p25	'locations': 19, 'packages': 72, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	7642.58
p26	'locations': 19, 'packages': 74, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	12832.13
p27	'locations': 20, 'packages': 77, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	21545.52
p28	'locations': 20, 'packages': 80, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	36175.58
p29	'locations': 21, 'packages': 83, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	60739.88
p30	'locations': 21, 'packages': 86, 'edgefactor': '1.5', 'edgeweight': '25', 'constrainedness': 1.5	101984.07

## 2.15 Openstacks

### Attributes

density	Enum([10, 20, 33, 50, 66, 80])
products	Linear(b=[5, 100], m=[0.5, 40])
orders	Linear(b=[5, 100], m=[1, 40])

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	density	products	orders	Estimated time
21	80	8 → 78	20 → 42	1.8 → 170000.0
9	80	50 → 72	38 → 47	500.0 → 95000.0

### Sequences for agile/satisficing planning

#	density	products	orders	Estimated Time
14	66	5 → 450	5 → 508	0.2 → 23000.0
16	10	5 → 530	5 → 585	0.22 → 22000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'density': 80, 'products': 8, 'orders': 20	1.75
p02	'density': 80, 'products': 12, 'orders': 21	1.96
p03	'density': 80, 'products': 15, 'orders': 22	2.21
p04	'density': 80, 'products': 19, 'orders': 23	2.47
p05	'density': 80, 'products': 22, 'orders': 24	2.81
p06	'density': 80, 'products': 26, 'orders': 25	3.71
p07	'density': 80, 'products': 29, 'orders': 26	4.29
p08	'density': 80, 'products': 33, 'orders': 27	5.37
p09	'density': 80, 'products': 36, 'orders': 28	9.90
p10	'density': 80, 'products': 40, 'orders': 30	20.15
p11	'density': 80, 'products': 43, 'orders': 31	34.58
p12	'density': 80, 'products': 47, 'orders': 32	61.18
p13	'density': 80, 'products': 50, 'orders': 33	223.51
p14	'density': 80, 'products': 54, 'orders': 34	512.59
p15	'density': 80, 'products': 57, 'orders': 35	1175.57
p16	'density': 80, 'products': 61, 'orders': 36	2696.02
p17	'density': 80, 'products': 64, 'orders': 37	6183.02
p18	'density': 80, 'products': 68, 'orders': 38	14180.03
p19	'density': 80, 'products': 71, 'orders': 39	32520.26
p20	'density': 80, 'products': 75, 'orders': 41	74581.42
p21	'density': 80, 'products': 78, 'orders': 42	171043.81
p22	'density': 80, 'products': 50, 'orders': 38	503.04
p23	'density': 80, 'products': 53, 'orders': 39	968.98
p24	'density': 80, 'products': 56, 'orders': 40	1866.52
p25	'density': 80, 'products': 59, 'orders': 42	3595.41
p26	'density': 80, 'products': 61, 'orders': 43	6925.72
p27	'density': 80, 'products': 64, 'orders': 44	13340.78
p28	'density': 80, 'products': 67, 'orders': 45	25697.91
p29	'density': 80, 'products': 69, 'orders': 46	49501.05
p30	'density': 80, 'products': 72, 'orders': 47	95352.27



## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'density': 66, 'products': 5, 'orders': 5	0.20
p02	'density': 66, 'products': 39, 'orders': 43	1.70
p03	'density': 66, 'products': 73, 'orders': 82	9.29
p04	'density': 66, 'products': 107, 'orders': 121	23.78
p05	'density': 66, 'products': 142, 'orders': 159	44.87
p06	'density': 66, 'products': 176, 'orders': 198	82.57
p07	'density': 66, 'products': 210, 'orders': 237	155.75
p08	'density': 66, 'products': 245, 'orders': 275	318.21
p09	'density': 66, 'products': 279, 'orders': 314	650.13
p10	'density': 66, 'products': 313, 'orders': 353	1328.25
p11	'density': 66, 'products': 348, 'orders': 391	2713.68
p12	'density': 66, 'products': 382, 'orders': 430	5544.21
p13	'density': 66, 'products': 416, 'orders': 469	11327.13
p14	'density': 66, 'products': 450, 'orders': 508	23141.97
p15	'density': 10, 'products': 5, 'orders': 5	0.22
p16	'density': 10, 'products': 40, 'orders': 43	1.52
p17	'density': 10, 'products': 75, 'orders': 82	4.96
p18	'density': 10, 'products': 110, 'orders': 121	12.61
p19	'density': 10, 'products': 145, 'orders': 159	26.10
p20	'density': 10, 'products': 180, 'orders': 198	47.93
p21	'density': 10, 'products': 215, 'orders': 237	79.41
p22	'density': 10, 'products': 250, 'orders': 275	118.40
p23	'density': 10, 'products': 285, 'orders': 314	227.20
p24	'density': 10, 'products': 320, 'orders': 353	435.99
p25	'density': 10, 'products': 355, 'orders': 391	836.64
p26	'density': 10, 'products': 390, 'orders': 430	1605.46
p27	'density': 10, 'products': 425, 'orders': 469	3080.79
p28	'density': 10, 'products': 460, 'orders': 508	5911.87
p29	'density': 10, 'products': 495, 'orders': 546	11344.54
p30	'density': 10, 'products': 530, 'orders': 585	21769.53

## 2.16 Parking

### Attributes

curbs	Linear(b=[3, 20], m=[1, 5.0])
cars_diff	Enum([0, -1, -2])

Adapt parameters: Yes

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	curbs	cars_diff	Estimated time
11	4 → 15	-1	0.57 → 77000.0
8	3 → 10	0	0.73 → 22000.0
11	6 → 17	-2	1.3 → 150000.0

### Sequences for agile/satisficing planning

#	curbs	cars_diff	Estimated Time
30	9 → 43	0	2.9 → 70000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'curbs': 4, 'cars': 5	0.57
p02	'curbs': 5, 'cars': 7	0.94
p03	'curbs': 6, 'cars': 9	1.99
p04	'curbs': 7, 'cars': 11	4.61
p05	'curbs': 8, 'cars': 13	24.41
p06	'curbs': 9, 'cars': 15	116.52
p07	'curbs': 10, 'cars': 17	266.50
p08	'curbs': 11, 'cars': 19	1097.87
p09	'curbs': 12, 'cars': 21	4522.79
p10	'curbs': 13, 'cars': 23	18632.15
p11	'curbs': 15, 'cars': 27	76757.36
p12	'curbs': 3, 'cars': 4	0.73
p13	'curbs': 4, 'cars': 6	0.78
p14	'curbs': 5, 'cars': 8	1.43
p15	'curbs': 6, 'cars': 10	3.78
p16	'curbs': 7, 'cars': 12	63.51
p17	'curbs': 8, 'cars': 14	218.41
p18	'curbs': 9, 'cars': 16	2211.35
p19	'curbs': 10, 'cars': 18	22389.13
p20	'curbs': 6, 'cars': 8	1.31
p21	'curbs': 7, 'cars': 10	3.15
p22	'curbs': 8, 'cars': 12	18.47
p23	'curbs': 9, 'cars': 14	64.96
p24	'curbs': 10, 'cars': 16	145.87
p25	'curbs': 11, 'cars': 18	307.23
p26	'curbs': 12, 'cars': 20	1054.17
p27	'curbs': 13, 'cars': 22	3617.14
p28	'curbs': 14, 'cars': 24	12411.37
p29	'curbs': 16, 'cars': 28	42586.68
p30	'curbs': 17, 'cars': 30	146126.09

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'curbs': 9, 'cars': 16	2.86
p02	'curbs': 10, 'cars': 18	4.03
p03	'curbs': 11, 'cars': 20	5.80
p04	'curbs': 12, 'cars': 22	7.84
p05	'curbs': 13, 'cars': 24	10.97
p06	'curbs': 14, 'cars': 26	14.43
p07	'curbs': 16, 'cars': 30	25.89
p08	'curbs': 17, 'cars': 32	33.69
p09	'curbs': 18, 'cars': 34	43.94
p10	'curbs': 19, 'cars': 36	62.52
p11	'curbs': 20, 'cars': 38	80.85
p12	'curbs': 22, 'cars': 42	141.32
p13	'curbs': 23, 'cars': 44	173.45
p14	'curbs': 24, 'cars': 46	246.78
p15	'curbs': 25, 'cars': 48	351.12
p16	'curbs': 26, 'cars': 50	499.56
p17	'curbs': 28, 'cars': 54	710.76
p18	'curbs': 29, 'cars': 56	1011.24
p19	'curbs': 30, 'cars': 58	1438.77
p20	'curbs': 31, 'cars': 60	2047.04
p21	'curbs': 32, 'cars': 62	2912.47
p22	'curbs': 34, 'cars': 66	4143.78
p23	'curbs': 35, 'cars': 68	5895.65
p24	'curbs': 36, 'cars': 70	8388.16
p25	'curbs': 37, 'cars': 72	11934.44
p26	'curbs': 39, 'cars': 76	16979.97
p27	'curbs': 40, 'cars': 78	24158.62
p28	'curbs': 41, 'cars': 80	34372.19
p29	'curbs': 42, 'cars': 82	48903.77
p30	'curbs': 43, 'cars': 84	69578.87

## 2.17 Rovers

### Attributes

rovers	Linear(b=[1, 5], m=[0, 1])
objectives	Linear(b=[1, 10], m=[0, 5.0])
cameras	Linear(b=[1, 10], m=[0, 2])
goals	Linear(b=[1, 20], m=[1, 5.0])
waypoints	Linear(b=[4, 20], m=[0.5, 5.0])

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	rovers	objectives	cameras	goals	waypoints	Estimated time
20	1	4 → 25	2	5 → 43	6 → 25	0.76 → 63000.0
10	1	5	5	25 → 37	25 → 34	350.0 → 88000.0

### Sequences for agile/satisficing planning

#	rovers	objectives	cameras	goals	waypoints	Estimated Time
11	1	1	16 → 31	31 → 71	10 → 16	0.84 → 170000.0
6	2 → 3	1	6 → 7	22 → 28	25 → 30	7.8 → 82000.0
7	1	59 → 83	31 → 43	51 → 76	13 → 16	44.0 → 130000.0
6	4	15 → 24	7	13 → 22	11 → 15	120.0 → 69000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'rovers': 1, 'objectives': 4, 'cameras': 2, 'goals': 5, 'waypoints': 6	0.76
p02	'rovers': 1, 'objectives': 5, 'cameras': 2, 'goals': 7, 'waypoints': 7	1.06
p03	'rovers': 1, 'objectives': 6, 'cameras': 2, 'goals': 9, 'waypoints': 8	1.51
p04	'rovers': 1, 'objectives': 7, 'cameras': 2, 'goals': 11, 'waypoints': 9	1.52
p05	'rovers': 1, 'objectives': 8, 'cameras': 2, 'goals': 13, 'waypoints': 10	2.44
p06	'rovers': 1, 'objectives': 9, 'cameras': 2, 'goals': 15, 'waypoints': 11	4.68
p07	'rovers': 1, 'objectives': 10, 'cameras': 2, 'goals': 17, 'waypoints': 12	6.35
p08	'rovers': 1, 'objectives': 11, 'cameras': 2, 'goals': 19, 'waypoints': 13	9.47
p09	'rovers': 1, 'objectives': 12, 'cameras': 2, 'goals': 21, 'waypoints': 14	19.66
p10	'rovers': 1, 'objectives': 14, 'cameras': 2, 'goals': 23, 'waypoints': 15	83.41
p11	'rovers': 1, 'objectives': 15, 'cameras': 2, 'goals': 25, 'waypoints': 16	92.08
p12	'rovers': 1, 'objectives': 16, 'cameras': 2, 'goals': 27, 'waypoints': 17	104.87
p13	'rovers': 1, 'objectives': 17, 'cameras': 2, 'goals': 29, 'waypoints': 18	254.61
p14	'rovers': 1, 'objectives': 18, 'cameras': 2, 'goals': 31, 'waypoints': 19	559.54
p15	'rovers': 1, 'objectives': 19, 'cameras': 2, 'goals': 33, 'waypoints': 20	1229.68
p16	'rovers': 1, 'objectives': 20, 'cameras': 2, 'goals': 35, 'waypoints': 21	2702.41
p17	'rovers': 1, 'objectives': 21, 'cameras': 2, 'goals': 37, 'waypoints': 22	5938.95
p18	'rovers': 1, 'objectives': 22, 'cameras': 2, 'goals': 39, 'waypoints': 23	13051.72
p19	'rovers': 1, 'objectives': 24, 'cameras': 2, 'goals': 41, 'waypoints': 24	28683.11
p20	'rovers': 1, 'objectives': 25, 'cameras': 2, 'goals': 43, 'waypoints': 25	63035.44
p21	'rovers': 1, 'objectives': 5, 'cameras': 5, 'goals': 25, 'waypoints': 25	354.65
p22	'rovers': 1, 'objectives': 5, 'cameras': 5, 'goals': 27, 'waypoints': 26	654.44
p23	'rovers': 1, 'objectives': 5, 'cameras': 5, 'goals': 28, 'waypoints': 27	1207.66
p24	'rovers': 1, 'objectives': 5, 'cameras': 5, 'goals': 29, 'waypoints': 28	2228.52
p25	'rovers': 1, 'objectives': 5, 'cameras': 5, 'goals': 30, 'waypoints': 29	4112.35
p26	'rovers': 1, 'objectives': 5, 'cameras': 5, 'goals': 32, 'waypoints': 30	7588.64
p27	'rovers': 1, 'objectives': 5, 'cameras': 5, 'goals': 33, 'waypoints': 31	14003.53
p28	'rovers': 1, 'objectives': 5, 'cameras': 5, 'goals': 34, 'waypoints': 32	25841.09
p29	'rovers': 1, 'objectives': 5, 'cameras': 5, 'goals': 36, 'waypoints': 33	47685.28
p30	'rovers': 1, 'objectives': 5, 'cameras': 5, 'goals': 37, 'waypoints': 34	87994.96

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'rovers': 1, 'objectives': 1, 'cameras': 16, 'goals': 31, 'waypoints': 10	0.84
p02	'rovers': 1, 'objectives': 1, 'cameras': 18, 'goals': 35, 'waypoints': 11	0.86
p03	'rovers': 1, 'objectives': 1, 'cameras': 19, 'goals': 39, 'waypoints': 12	1.08
p04	'rovers': 1, 'objectives': 1, 'cameras': 21, 'goals': 43, 'waypoints': 12	1.11
p05	'rovers': 1, 'objectives': 1, 'cameras': 22, 'goals': 47, 'waypoints': 13	32.16
p06	'rovers': 1, 'objectives': 1, 'cameras': 24, 'goals': 51, 'waypoints': 13	120.57
p07	'rovers': 1, 'objectives': 1, 'cameras': 25, 'goals': 55, 'waypoints': 14	120.57
p08	'rovers': 1, 'objectives': 1, 'cameras': 27, 'goals': 59, 'waypoints': 15	240.21
p09	'rovers': 1, 'objectives': 1, 'cameras': 28, 'goals': 63, 'waypoints': 15	2144.70
p10	'rovers': 1, 'objectives': 1, 'cameras': 30, 'goals': 67, 'waypoints': 16	19149.14
p11	'rovers': 1, 'objectives': 1, 'cameras': 31, 'goals': 71, 'waypoints': 16	170974.55
p12	'rovers': 2, 'objectives': 1, 'cameras': 6, 'goals': 22, 'waypoints': 25	7.77
p13	'rovers': 2, 'objectives': 1, 'cameras': 6, 'goals': 23, 'waypoints': 26	21.46
p14	'rovers': 3, 'objectives': 1, 'cameras': 6, 'goals': 24, 'waypoints': 27	240.49
p15	'rovers': 3, 'objectives': 1, 'cameras': 7, 'goals': 26, 'waypoints': 28	1679.64
p16	'rovers': 3, 'objectives': 1, 'cameras': 7, 'goals': 27, 'waypoints': 29	11730.98
p17	'rovers': 3, 'objectives': 1, 'cameras': 7, 'goals': 28, 'waypoints': 30	81931.88
p18	'rovers': 1, 'objectives': 59, 'cameras': 31, 'goals': 51, 'waypoints': 13	44.06
p19	'rovers': 1, 'objectives': 63, 'cameras': 33, 'goals': 55, 'waypoints': 13	124.22
p20	'rovers': 1, 'objectives': 67, 'cameras': 35, 'goals': 59, 'waypoints': 14	241.43
p21	'rovers': 1, 'objectives': 71, 'cameras': 37, 'goals': 64, 'waypoints': 14	1164.93
p22	'rovers': 1, 'objectives': 75, 'cameras': 39, 'goals': 68, 'waypoints': 15	5620.97
p23	'rovers': 1, 'objectives': 79, 'cameras': 41, 'goals': 72, 'waypoints': 16	27121.99
p24	'rovers': 1, 'objectives': 83, 'cameras': 43, 'goals': 76, 'waypoints': 16	130867.47
p25	'rovers': 4, 'objectives': 15, 'cameras': 7, 'goals': 13, 'waypoints': 11	120.75
p26	'rovers': 4, 'objectives': 17, 'cameras': 7, 'goals': 15, 'waypoints': 12	120.91
p27	'rovers': 4, 'objectives': 19, 'cameras': 7, 'goals': 17, 'waypoints': 13	121.21
p28	'rovers': 4, 'objectives': 21, 'cameras': 7, 'goals': 19, 'waypoints': 13	240.45
p29	'rovers': 4, 'objectives': 22, 'cameras': 7, 'goals': 20, 'waypoints': 14	4082.35
p30	'rovers': 4, 'objectives': 24, 'cameras': 7, 'goals': 22, 'waypoints': 15	69309.97

## 2.18 Satellite

### Attributes

satellites	Linear(b=[1, 10], m=[0, 2.0])
targets	Linear(b=[5, 20], m=[0.5, 10])
modes	Linear(b=[2, 10], m=[0, 1.0])
observations	Linear(b=[5, 40], m=[1, 10])

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	satellites	targets	modes	observations	Estimated time
24	1	18 → 39	7	8 → 33	1.0 → 110000.0
6	1	30 → 34	6	25 → 30	180.0 → 75000.0

### Sequences for agile/satisficing planning

#	satellites	targets	modes	observations	Estimated Time
30	2 → 57	12 → 278	3	5 → 60	0.69 → 90000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'satellites': 1, 'targets': 18, 'modes': 7, 'observations': 8	1.00
p02	'satellites': 1, 'targets': 19, 'modes': 7, 'observations': 9	1.09
p03	'satellites': 1, 'targets': 20, 'modes': 7, 'observations': 10	1.30
p04	'satellites': 1, 'targets': 21, 'modes': 7, 'observations': 11	1.45
p05	'satellites': 1, 'targets': 22, 'modes': 7, 'observations': 12	1.66
p06	'satellites': 1, 'targets': 23, 'modes': 7, 'observations': 13	1.89
p07	'satellites': 1, 'targets': 24, 'modes': 7, 'observations': 14	2.81
p08	'satellites': 1, 'targets': 24, 'modes': 7, 'observations': 15	2.99
p09	'satellites': 1, 'targets': 25, 'modes': 7, 'observations': 17	4.51
p10	'satellites': 1, 'targets': 26, 'modes': 7, 'observations': 18	6.52
p11	'satellites': 1, 'targets': 27, 'modes': 7, 'observations': 19	6.87
p12	'satellites': 1, 'targets': 28, 'modes': 7, 'observations': 20	9.38
p13	'satellites': 1, 'targets': 29, 'modes': 7, 'observations': 21	17.10
p14	'satellites': 1, 'targets': 30, 'modes': 7, 'observations': 22	50.07
p15	'satellites': 1, 'targets': 31, 'modes': 7, 'observations': 23	74.27
p16	'satellites': 1, 'targets': 32, 'modes': 7, 'observations': 24	194.37
p17	'satellites': 1, 'targets': 33, 'modes': 7, 'observations': 25	430.11
p18	'satellites': 1, 'targets': 33, 'modes': 7, 'observations': 27	951.79
p19	'satellites': 1, 'targets': 34, 'modes': 7, 'observations': 28	2106.20
p20	'satellites': 1, 'targets': 35, 'modes': 7, 'observations': 29	4660.78
p21	'satellites': 1, 'targets': 36, 'modes': 7, 'observations': 30	10313.77
p22	'satellites': 1, 'targets': 37, 'modes': 7, 'observations': 31	22823.20
p23	'satellites': 1, 'targets': 38, 'modes': 7, 'observations': 32	50505.14
p24	'satellites': 1, 'targets': 39, 'modes': 7, 'observations': 33	111762.13
p25	'satellites': 1, 'targets': 30, 'modes': 6, 'observations': 25	180.00
p26	'satellites': 1, 'targets': 30, 'modes': 6, 'observations': 26	601.86
p27	'satellites': 1, 'targets': 31, 'modes': 6, 'observations': 27	2012.40
p28	'satellites': 1, 'targets': 32, 'modes': 6, 'observations': 28	6728.78
p29	'satellites': 1, 'targets': 33, 'modes': 6, 'observations': 29	22498.70
p30	'satellites': 1, 'targets': 34, 'modes': 6, 'observations': 30	75227.85

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'satellites': 2, 'targets': 12, 'modes': 3, 'observations': 5	0.69
p02	'satellites': 3, 'targets': 21, 'modes': 3, 'observations': 6	0.75
p03	'satellites': 5, 'targets': 30, 'modes': 3, 'observations': 8	2.27
p04	'satellites': 7, 'targets': 39, 'modes': 3, 'observations': 10	5.26
p05	'satellites': 9, 'targets': 48, 'modes': 3, 'observations': 12	7.73
p06	'satellites': 11, 'targets': 58, 'modes': 3, 'observations': 14	14.60
p07	'satellites': 13, 'targets': 67, 'modes': 3, 'observations': 16	16.22
p08	'satellites': 15, 'targets': 76, 'modes': 3, 'observations': 18	33.73
p09	'satellites': 17, 'targets': 85, 'modes': 3, 'observations': 20	66.33
p10	'satellites': 19, 'targets': 94, 'modes': 3, 'observations': 22	82.51
p11	'satellites': 21, 'targets': 104, 'modes': 3, 'observations': 23	83.74
p12	'satellites': 22, 'targets': 113, 'modes': 3, 'observations': 25	120.05
p13	'satellites': 24, 'targets': 122, 'modes': 3, 'observations': 27	122.08
p14	'satellites': 26, 'targets': 131, 'modes': 3, 'observations': 29	180.00
p15	'satellites': 28, 'targets': 140, 'modes': 3, 'observations': 31	265.40
p16	'satellites': 30, 'targets': 150, 'modes': 3, 'observations': 33	391.32
p17	'satellites': 32, 'targets': 159, 'modes': 3, 'observations': 35	576.97
p18	'satellites': 34, 'targets': 168, 'modes': 3, 'observations': 37	850.72
p19	'satellites': 36, 'targets': 177, 'modes': 3, 'observations': 39	1254.33
p20	'satellites': 38, 'targets': 186, 'modes': 3, 'observations': 41	1849.44
p21	'satellites': 39, 'targets': 195, 'modes': 3, 'observations': 42	2726.89
p22	'satellites': 41, 'targets': 205, 'modes': 3, 'observations': 44	4020.65
p23	'satellites': 43, 'targets': 214, 'modes': 3, 'observations': 46	5928.22
p24	'satellites': 45, 'targets': 223, 'modes': 3, 'observations': 48	8740.82
p25	'satellites': 47, 'targets': 232, 'modes': 3, 'observations': 50	12887.85
p26	'satellites': 49, 'targets': 241, 'modes': 3, 'observations': 52	19002.39
p27	'satellites': 51, 'targets': 251, 'modes': 3, 'observations': 54	28017.95
p28	'satellites': 53, 'targets': 260, 'modes': 3, 'observations': 56	41310.86
p29	'satellites': 55, 'targets': 269, 'modes': 3, 'observations': 58	60910.52
p30	'satellites': 57, 'targets': 278, 'modes': 3, 'observations': 60	89809.08

## 2.19 Scanalyzer

### Attributes

segment_type	Enum(['empty', 'ab'])
inout	Enum(['none', 'both', 'in'])
size	Linear(b=[1, 4], m=[1, 3])

Duplicated Parameters Penalty: inf

### Sequences for optimal planning

#	segment_type	inout	size	Estimated time
7	empty	none	1 → 7	0.51 → 53000.0
6	empty	in	2 → 7	0.52 → 150000.0
17	empty	both	3 → 20	0.66 → 180000.0

### Sequences for agile/satisficing planning

#	segment_type	inout	size	Estimated Time
30	empty	in	4 → 33	0.71 → 73000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'segment_type': 'empty', 'inout': 'none', 'size': 1	0.51
p02	'segment_type': 'empty', 'inout': 'none', 'size': 2	0.53
p03	'segment_type': 'empty', 'inout': 'none', 'size': 3	1.17
p04	'segment_type': 'empty', 'inout': 'none', 'size': 4	10.47
p05	'segment_type': 'empty', 'inout': 'none', 'size': 5	180.00
p06	'segment_type': 'empty', 'inout': 'none', 'size': 6	3094.40
p07	'segment_type': 'empty', 'inout': 'none', 'size': 7	53196.32
p08	'segment_type': 'empty', 'inout': 'in', 'size': 2	0.52
p09	'segment_type': 'empty', 'inout': 'in', 'size': 3	0.75
p10	'segment_type': 'empty', 'inout': 'in', 'size': 4	6.28
p11	'segment_type': 'empty', 'inout': 'in', 'size': 5	180.00
p12	'segment_type': 'empty', 'inout': 'in', 'size': 6	5162.82
p13	'segment_type': 'empty', 'inout': 'in', 'size': 7	148081.68
p14	'segment_type': 'empty', 'inout': 'both', 'size': 3	0.66
p15	'segment_type': 'empty', 'inout': 'both', 'size': 4	1.00
p16	'segment_type': 'empty', 'inout': 'both', 'size': 5	1.89
p17	'segment_type': 'empty', 'inout': 'both', 'size': 6	4.20
p18	'segment_type': 'empty', 'inout': 'both', 'size': 7	9.37
p19	'segment_type': 'empty', 'inout': 'both', 'size': 8	20.82
p20	'segment_type': 'empty', 'inout': 'both', 'size': 9	46.58
p21	'segment_type': 'empty', 'inout': 'both', 'size': 10	110.14
p22	'segment_type': 'empty', 'inout': 'both', 'size': 11	250.55
p23	'segment_type': 'empty', 'inout': 'both', 'size': 13	569.95
p24	'segment_type': 'empty', 'inout': 'both', 'size': 14	1296.53
p25	'segment_type': 'empty', 'inout': 'both', 'size': 15	2949.38
p26	'segment_type': 'empty', 'inout': 'both', 'size': 16	6709.30
p27	'segment_type': 'empty', 'inout': 'both', 'size': 17	15262.43
p28	'segment_type': 'empty', 'inout': 'both', 'size': 18	34719.26
p29	'segment_type': 'empty', 'inout': 'both', 'size': 19	78979.99
p30	'segment_type': 'empty', 'inout': 'both', 'size': 20	179665.08



## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'segment_type': 'empty', 'inout': 'in', 'size': 4	0.71
p02	'segment_type': 'empty', 'inout': 'in', 'size': 5	1.09
p03	'segment_type': 'empty', 'inout': 'in', 'size': 6	1.68
p04	'segment_type': 'empty', 'inout': 'in', 'size': 7	2.63
p05	'segment_type': 'empty', 'inout': 'in', 'size': 8	4.28
p06	'segment_type': 'empty', 'inout': 'in', 'size': 9	6.67
p07	'segment_type': 'empty', 'inout': 'in', 'size': 10	10.12
p08	'segment_type': 'empty', 'inout': 'in', 'size': 11	16.06
p09	'segment_type': 'empty', 'inout': 'in', 'size': 12	24.09
p10	'segment_type': 'empty', 'inout': 'in', 'size': 13	36.64
p11	'segment_type': 'empty', 'inout': 'in', 'size': 14	53.00
p12	'segment_type': 'empty', 'inout': 'in', 'size': 15	76.90
p13	'segment_type': 'empty', 'inout': 'in', 'size': 16	106.70
p14	'segment_type': 'empty', 'inout': 'in', 'size': 17	147.23
p15	'segment_type': 'empty', 'inout': 'in', 'size': 18	216.99
p16	'segment_type': 'empty', 'inout': 'in', 'size': 19	319.79
p17	'segment_type': 'empty', 'inout': 'in', 'size': 20	471.29
p18	'segment_type': 'empty', 'inout': 'in', 'size': 21	694.58
p19	'segment_type': 'empty', 'inout': 'in', 'size': 22	1023.65
p20	'segment_type': 'empty', 'inout': 'in', 'size': 23	1508.63
p21	'segment_type': 'empty', 'inout': 'in', 'size': 24	2223.37
p22	'segment_type': 'empty', 'inout': 'in', 'size': 25	3276.75
p23	'segment_type': 'empty', 'inout': 'in', 'size': 26	4829.18
p24	'segment_type': 'empty', 'inout': 'in', 'size': 27	7117.11
p25	'segment_type': 'empty', 'inout': 'in', 'size': 28	10489.00
p26	'segment_type': 'empty', 'inout': 'in', 'size': 29	15458.40
p27	'segment_type': 'empty', 'inout': 'in', 'size': 30	22782.17
p28	'segment_type': 'empty', 'inout': 'in', 'size': 31	33575.73
p29	'segment_type': 'empty', 'inout': 'in', 'size': 32	49482.99
p30	'segment_type': 'empty', 'inout': 'in', 'size': 33	72926.66

## 2.20 Snake

### Attributes

snake_size	Constant(1)
num_initial_apples	Constant(5)
grid	Grid(x=[3, 8], m=[0.1, 3.0])
num_spawn_apples	Enum(['40%', '55%', '70%', '85%', '100%'])
Adapt parameters:	Yes
Duplicated Parameters Penalty: 100.0	

### Sequences for optimal planning

#	grid	num_spawn_apples	Estimated time
18	5-5 → 7-10	40%	3.1 → 120000.0
12	5-7 → 6-10	55%	52.0 → 130000.0

### Sequences for agile/satisficing planning

#	grid	num_spawn_apples	Estimated Time
30	5-5 → 13-14	40%	0.79 → 130000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 5, 'y_grid': 5, 'num_spawn_apples': '40%', 'board': 'empty-5x5'	3.15
p02	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 4, 'y_grid': 7, 'num_spawn_apples': '40%', 'board': 'empty-4x7'	4.15
p03	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 4, 'y_grid': 8, 'num_spawn_apples': '40%', 'board': 'empty-4x8'	5.62
p04	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 5, 'y_grid': 7, 'num_spawn_apples': '40%', 'board': 'empty-5x7'	8.21
p05	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 4, 'y_grid': 9, 'num_spawn_apples': '40%', 'board': 'empty-4x9'	9.97
p06	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 6, 'y_grid': 6, 'num_spawn_apples': '40%', 'board': 'empty-6x6'	11.42
p07	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 5, 'y_grid': 8, 'num_spawn_apples': '40%', 'board': 'empty-5x8'	26.00
p08	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 6, 'y_grid': 7, 'num_spawn_apples': '40%', 'board': 'empty-6x7'	45.78
p09	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 5, 'y_grid': 9, 'num_spawn_apples': '40%', 'board': 'empty-5x9'	147.75
p10	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 6, 'y_grid': 8, 'num_spawn_apples': '40%', 'board': 'empty-6x8'	310.66
p11	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 7, 'y_grid': 7, 'num_spawn_apples': '40%', 'board': 'empty-7x7'	653.17
p12	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 6, 'y_grid': 9, 'num_spawn_apples': '40%', 'board': 'empty-6x9'	1373.31
p13	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 7, 'y_grid': 8, 'num_spawn_apples': '40%', 'board': 'empty-7x8'	2887.43
p14	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 6, 'y_grid': 10, 'num_spawn_apples': '40%', 'board': 'empty-6x10'	6070.92
p15	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 7, 'y_grid': 9, 'num_spawn_apples': '40%', 'board': 'empty-7x9'	12764.30
p16	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 8, 'y_grid': 8, 'num_spawn_apples': '40%', 'board': 'empty-8x8'	26837.34
p17	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 6, 'y_grid': 11, 'num_spawn_apples': '40%', 'board': 'empty-6x11'	56426.37
p18	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 7, 'y_grid': 10, 'num_spawn_apples': '40%', 'board': 'empty-7x10'	118638.24
p19	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 5, 'y_grid': 7, 'num_spawn_apples': '55%', 'board': 'empty-5x7'	52.03
p20	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 4, 'y_grid': 9, 'num_spawn_apples': '55%', 'board': 'empty-4x9'	95.05
p21	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 6, 'y_grid': 6, 'num_spawn_apples': '55%', 'board': 'empty-6x6'	110.10
p22	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 5, 'y_grid': 8, 'num_spawn_apples': '55%', 'board': 'empty-5x8'	344.82
p23	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 6, 'y_grid': 7, 'num_spawn_apples': '55%', 'board': 'empty-6x7'	726.92
p24	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 5, 'y_grid': 9, 'num_spawn_apples': '55%', 'board': 'empty-5x9'	1532.43
p25	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 6, 'y_grid': 8, 'num_spawn_apples': '55%', 'board': 'empty-6x8'	3230.54
p26	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 7, 'y_grid': 7, 'num_spawn_apples': '55%', 'board': 'empty-7x7'	6810.36
p27	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 5, 'y_grid': 10, 'num_spawn_apples': '55%', 'board': 'empty-5x10'	14357.04
p28	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 6, 'y_grid': 9, 'num_spawn_apples': '55%', 'board': 'empty-6x9'	30266.34
p29	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 7, 'y_grid': 8, 'num_spawn_apples': '55%', 'board': 'empty-7x8'	63805.00
p30	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 6, 'y_grid': 10, 'num_spawn_apples': '55%', 'board': 'empty-6x10'	134508.46

### Tasks for agile/satisficing planning

name	config	estimated_time
p01	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 5, 'y_grid': 5, 'num_spawn_apples': '40%', 'board': 'empty-5x5'	0.79
p02	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 5, 'y_grid': 6, 'num_spawn_apples': '40%', 'board': 'empty-5x6'	1.43
p03	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 5, 'y_grid': 7, 'num_spawn_apples': '40%', 'board': 'empty-5x7'	2.46
p04	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 5, 'y_grid': 8, 'num_spawn_apples': '40%', 'board': 'empty-5x8'	3.84
p05	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 6, 'y_grid': 7, 'num_spawn_apples': '40%', 'board': 'empty-6x7'	4.33
p06	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 6, 'y_grid': 8, 'num_spawn_apples': '40%', 'board': 'empty-6x8'	7.37
p07	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 7, 'y_grid': 7, 'num_spawn_apples': '40%', 'board': 'empty-7x7'	7.56
p08	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 6, 'y_grid': 9, 'num_spawn_apples': '40%', 'board': 'empty-6x9'	15.19
p09	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 6, 'y_grid': 10, 'num_spawn_apples': '40%', 'board': 'empty-6x10'	26.41
p10	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 7, 'y_grid': 9, 'num_spawn_apples': '40%', 'board': 'empty-7x9'	32.54
p11	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 7, 'y_grid': 10, 'num_spawn_apples': '40%', 'board': 'empty-7x10'	55.91
p12	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 8, 'y_grid': 9, 'num_spawn_apples': '40%', 'board': 'empty-8x9'	60.01
p13	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 7, 'y_grid': 11, 'num_spawn_apples': '40%', 'board': 'empty-7x11'	76.22
p14	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 9, 'y_grid': 9, 'num_spawn_apples': '40%', 'board': 'empty-9x9'	96.51
p15	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 8, 'y_grid': 11, 'num_spawn_apples': '40%', 'board': 'empty-8x11'	194.05
p16	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 9, 'y_grid': 10, 'num_spawn_apples': '40%', 'board': 'empty-9x10'	298.81
p17	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 9, 'y_grid': 11, 'num_spawn_apples': '40%', 'board': 'empty-9x11'	460.14
p18	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 10, 'y_grid': 10, 'num_spawn_apples': '40%', 'board': 'empty-10x10'	708.56
p19	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 10, 'y_grid': 11, 'num_spawn_apples': '40%', 'board': 'empty-10x11'	1091.10
p20	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 9, 'y_grid': 13, 'num_spawn_apples': '40%', 'board': 'empty-9x13'	1680.17
p21	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 10, 'y_grid': 12, 'num_spawn_apples': '40%', 'board': 'empty-10x12'	2587.27
p22	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 10, 'y_grid': 13, 'num_spawn_apples': '40%', 'board': 'empty-10x13'	3984.11
p23	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 11, 'y_grid': 12, 'num_spawn_apples': '40%', 'board': 'empty-11x12'	6135.07
p24	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 11, 'y_grid': 13, 'num_spawn_apples': '40%', 'board': 'empty-11x13'	9447.32
p25	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 12, 'y_grid': 12, 'num_spawn_apples': '40%', 'board': 'empty-12x12'	14547.79
p26	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 11, 'y_grid': 14, 'num_spawn_apples': '40%', 'board': 'empty-11x14'	22401.94
p27	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 11, 'y_grid': 15, 'num_spawn_apples': '40%', 'board': 'empty-11x15'	34496.44
p28	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 12, 'y_grid': 14, 'num_spawn_apples': '40%', 'board': 'empty-12x14'	53120.60
p29	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 12, 'y_grid': 15, 'num_spawn_apples': '40%', 'board': 'empty-12x15'	81799.68
p30	'snake_size': '1', 'num_initial_apples': 5, 'x_grid': 13, 'y_grid': 14, 'num_spawn_apples': '40%', 'board': 'empty-13x14'	125962.20

## 2.21 Storage

### Attributes

crates	Linear(b=[2, 15], m=[1, 5])
hoists	Linear(b=[2, 5], m=[0, 5.0])
store_areas	Linear(b=[0, 10], m=[0, 5.0])
depots	Linear(b=[1, 5], m=[0, 1])
Adapt parameters:	Yes
Duplicated Parameters Penalty: 100.0	

### Sequences for optimal planning

#	crates	hoists	store_areas	depots	Estimated time
21	2 → 22	2	2 → 22	1 → 21	0.54 → 92000.0
9	10 → 18	2	13 → 21	9 → 17	88.0 → 160000.0

### Sequences for agile/satisficing planning

#	crates	hoists	store_areas	depots	Estimated Time
24	4 → 27	6 → 50	15 → 156	2 → 21	0.42 → 160000.0
6	13 → 18	19 → 27	27 → 39	4	16.0 → 71000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'crates': 2, 'hoists': 2, 'store_areas': 2, 'depots': 1, 'containers': 1	0.54
p02	'crates': 3, 'hoists': 2, 'store_areas': 3, 'depots': 2, 'containers': 1	0.62
p03	'crates': 4, 'hoists': 2, 'store_areas': 4, 'depots': 3, 'containers': 1	0.64
p04	'crates': 5, 'hoists': 2, 'store_areas': 5, 'depots': 4, 'containers': 2	0.72
p05	'crates': 6, 'hoists': 2, 'store_areas': 6, 'depots': 5, 'containers': 2	0.93
p06	'crates': 7, 'hoists': 2, 'store_areas': 7, 'depots': 6, 'containers': 2	1.44
p07	'crates': 8, 'hoists': 2, 'store_areas': 8, 'depots': 7, 'containers': 2	2.24
p08	'crates': 9, 'hoists': 2, 'store_areas': 9, 'depots': 8, 'containers': 3	3.77
p09	'crates': 10, 'hoists': 2, 'store_areas': 10, 'depots': 9, 'containers': 3	6.71
p10	'crates': 11, 'hoists': 2, 'store_areas': 11, 'depots': 10, 'containers': 3	26.47
p11	'crates': 12, 'hoists': 2, 'store_areas': 12, 'depots': 11, 'containers': 3	54.26
p12	'crates': 13, 'hoists': 2, 'store_areas': 13, 'depots': 12, 'containers': 4	97.16
p13	'crates': 14, 'hoists': 2, 'store_areas': 14, 'depots': 13, 'containers': 4	146.71
p14	'crates': 15, 'hoists': 2, 'store_areas': 15, 'depots': 14, 'containers': 4	299.31
p15	'crates': 16, 'hoists': 2, 'store_areas': 16, 'depots': 15, 'containers': 4	678.54
p16	'crates': 17, 'hoists': 2, 'store_areas': 17, 'depots': 16, 'containers': 5	1538.27
p17	'crates': 18, 'hoists': 2, 'store_areas': 18, 'depots': 17, 'containers': 5	3487.27
p18	'crates': 19, 'hoists': 2, 'store_areas': 19, 'depots': 18, 'containers': 5	7905.68
p19	'crates': 20, 'hoists': 2, 'store_areas': 20, 'depots': 19, 'containers': 5	17922.27
p20	'crates': 21, 'hoists': 2, 'store_areas': 21, 'depots': 20, 'containers': 6	40630.01
p21	'crates': 22, 'hoists': 2, 'store_areas': 22, 'depots': 21, 'containers': 6	92108.72
p22	'crates': 10, 'hoists': 2, 'store_areas': 13, 'depots': 9, 'containers': 3	88.44
p23	'crates': 11, 'hoists': 2, 'store_areas': 14, 'depots': 10, 'containers': 3	226.54
p24	'crates': 12, 'hoists': 2, 'store_areas': 15, 'depots': 11, 'containers': 3	580.24
p25	'crates': 13, 'hoists': 2, 'store_areas': 16, 'depots': 12, 'containers': 4	1486.19
p26	'crates': 14, 'hoists': 2, 'store_areas': 17, 'depots': 13, 'containers': 4	3806.64
p27	'crates': 15, 'hoists': 2, 'store_areas': 18, 'depots': 14, 'containers': 4	9750.11
p28	'crates': 16, 'hoists': 2, 'store_areas': 19, 'depots': 15, 'containers': 4	24973.34
p29	'crates': 17, 'hoists': 2, 'store_areas': 20, 'depots': 16, 'containers': 5	63965.22
p30	'crates': 18, 'hoists': 2, 'store_areas': 21, 'depots': 17, 'containers': 5	163836.68

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'crates': 4, 'hoists': 6, 'store_areas': 15, 'depots': 2, 'containers': 1	0.42
p02	'crates': 5, 'hoists': 8, 'store_areas': 21, 'depots': 3, 'containers': 2	0.89
p03	'crates': 6, 'hoists': 10, 'store_areas': 27, 'depots': 4, 'containers': 2	2.04
p04	'crates': 7, 'hoists': 12, 'store_areas': 34, 'depots': 5, 'containers': 2	3.94
p05	'crates': 8, 'hoists': 14, 'store_areas': 40, 'depots': 5, 'containers': 2	6.36
p06	'crates': 9, 'hoists': 16, 'store_areas': 46, 'depots': 6, 'containers': 3	11.78
p07	'crates': 10, 'hoists': 18, 'store_areas': 52, 'depots': 7, 'containers': 3	20.32
p08	'crates': 11, 'hoists': 20, 'store_areas': 58, 'depots': 8, 'containers': 3	39.21
p09	'crates': 12, 'hoists': 21, 'store_areas': 64, 'depots': 9, 'containers': 3	69.70
p10	'crates': 13, 'hoists': 23, 'store_areas': 70, 'depots': 9, 'containers': 4	80.10
p11	'crates': 14, 'hoists': 25, 'store_areas': 76, 'depots': 10, 'containers': 4	90.12
p12	'crates': 15, 'hoists': 27, 'store_areas': 82, 'depots': 11, 'containers': 4	228.81
p13	'crates': 16, 'hoists': 29, 'store_areas': 88, 'depots': 12, 'containers': 4	395.46
p14	'crates': 17, 'hoists': 31, 'store_areas': 95, 'depots': 13, 'containers': 5	683.50
p15	'crates': 18, 'hoists': 33, 'store_areas': 101, 'depots': 13, 'containers': 5	1181.35
p16	'crates': 19, 'hoists': 35, 'store_areas': 107, 'depots': 14, 'containers': 5	2041.80
p17	'crates': 20, 'hoists': 37, 'store_areas': 113, 'depots': 15, 'containers': 5	3528.99
p18	'crates': 21, 'hoists': 39, 'store_areas': 119, 'depots': 16, 'containers': 6	6099.39
p19	'crates': 22, 'hoists': 40, 'store_areas': 125, 'depots': 17, 'containers': 6	10542.00
p20	'crates': 23, 'hoists': 42, 'store_areas': 131, 'depots': 17, 'containers': 6	18220.46
p21	'crates': 24, 'hoists': 44, 'store_areas': 137, 'depots': 18, 'containers': 6	31491.67
p22	'crates': 25, 'hoists': 46, 'store_areas': 143, 'depots': 19, 'containers': 7	54429.20
p23	'crates': 26, 'hoists': 48, 'store_areas': 149, 'depots': 20, 'containers': 7	94073.72
p24	'crates': 27, 'hoists': 50, 'store_areas': 156, 'depots': 21, 'containers': 7	162594.05
p25	'crates': 13, 'hoists': 19, 'store_areas': 27, 'depots': 4, 'containers': 4	16.33
p26	'crates': 14, 'hoists': 21, 'store_areas': 30, 'depots': 4, 'containers': 4	24.54
p27	'crates': 15, 'hoists': 22, 'store_areas': 32, 'depots': 4, 'containers': 4	180.00
p28	'crates': 16, 'hoists': 24, 'store_areas': 35, 'depots': 4, 'containers': 4	1320.47
p29	'crates': 17, 'hoists': 25, 'store_areas': 37, 'depots': 4, 'containers': 5	9686.94
p30	'crates': 18, 'hoists': 27, 'store_areas': 39, 'depots': 4, 'containers': 5	71062.97

## 2.22 Termes

### Attributes

grid	Grid(x=[3, 10], m=[0, 5])
min_height	Linear(b=[1, 5], m=[0, 1])
max_height	Linear(b=[0, 5], m=[0, 1 + min_height])
num_towers	Linear(b=[1, 4], m=[0, 2])

Discard Sequences: Yes

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	grid	min_height	max_height	num_towers	Estimated time
20	IPC Instances	IPC Instances	IPC Instances	IPC Instances	1.2 → 1300.0
5	3-3	1	3	11 → 15	85.0 → 60000.0
5	3-3	2	4	7 → 11	96.0 → 120000.0

### Sequences for agile/satisficing planning

#	grid	min_height	max_height	num_towers	Estimated Time
16	7-7	1	2 → 6	10 → 34	1.5 → 79000.0
14	6-6	3	3 → 6	1 → 23	2.0 → 110000.0

### Tasks for optimal planning

name	config	estimated_time
p01	p01.pddl	1.25
p02	p02.pddl	1.37
p03	p12.pddl	1.56
p04	p11.pddl	1.90
p05	p03.pddl	2.57
p06	p18.pddl	4.48
p07	p04.pddl	4.92
p08	p17.pddl	13.49
p09	p13.pddl	13.49
p10	p14.pddl	14.43
p11	p19.pddl	15.60
p12	p20.pddl	35.83
p13	p05.pddl	38.00
p14	p15.pddl	132.18
p15	p16.pddl	163.11
p16	p06.pddl	169.81
p17	p07.pddl	283.08
p18	p08.pddl	471.91
p19	p09.pddl	786.71
p20	p10.pddl	1311.48
p21	'x': 3, 'y': 3, 'min_height': 1, 'max_height': 3, 'num_towers': 11	85.44
p22	'x': 3, 'y': 3, 'min_height': 1, 'max_height': 3, 'num_towers': 12	439.82
p23	'x': 3, 'y': 3, 'min_height': 1, 'max_height': 3, 'num_towers': 13	2263.94
p24	'x': 3, 'y': 3, 'min_height': 1, 'max_height': 3, 'num_towers': 14	11653.57
p25	'x': 3, 'y': 3, 'min_height': 1, 'max_height': 3, 'num_towers': 15	59986.34
p26	'x': 3, 'y': 3, 'min_height': 2, 'max_height': 4, 'num_towers': 7	96.05
p27	'x': 3, 'y': 3, 'min_height': 2, 'max_height': 4, 'num_towers': 8	317.44
p28	'x': 3, 'y': 3, 'min_height': 2, 'max_height': 4, 'num_towers': 9	2323.65
p29	'x': 3, 'y': 3, 'min_height': 2, 'max_height': 4, 'num_towers': 10	17009.34
p30	'x': 3, 'y': 3, 'min_height': 2, 'max_height': 4, 'num_towers': 11	124509.88

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 2, 'num_towers': 10	1.45
p02	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 2, 'num_towers': 11	1.47
p03	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 3, 'num_towers': 13	4.60
p04	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 3, 'num_towers': 14	6.24
p05	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 3, 'num_towers': 16	9.69
p06	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 4, 'num_towers': 18	13.71
p07	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 4, 'num_towers': 19	45.14
p08	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 4, 'num_towers': 21	55.74
p09	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 4, 'num_towers': 22	65.30
p10	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 5, 'num_towers': 24	180.00
p11	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 5, 'num_towers': 26	496.17
p12	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 5, 'num_towers': 27	1367.70
p13	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 6, 'num_towers': 29	3770.08
p14	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 6, 'num_towers': 30	10392.26
p15	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 6, 'num_towers': 32	28646.34
p16	'x': 7, 'y': 7, 'min_height': 1, 'max_height': 6, 'num_towers': 34	78963.87
p17	'x': 6, 'y': 6, 'min_height': 3, 'max_height': 3, 'num_towers': 1	2.04
p18	'x': 6, 'y': 6, 'min_height': 3, 'max_height': 3, 'num_towers': 2	2.74
p19	'x': 6, 'y': 6, 'min_height': 3, 'max_height': 3, 'num_towers': 4	3.67
p20	'x': 6, 'y': 6, 'min_height': 3, 'max_height': 3, 'num_towers': 6	4.71
p21	'x': 6, 'y': 6, 'min_height': 3, 'max_height': 4, 'num_towers': 7	24.40
p22	'x': 6, 'y': 6, 'min_height': 3, 'max_height': 4, 'num_towers': 9	53.00
p23	'x': 6, 'y': 6, 'min_height': 3, 'max_height': 4, 'num_towers': 11	68.36
p24	'x': 6, 'y': 6, 'min_height': 3, 'max_height': 5, 'num_towers': 12	196.95
p25	'x': 6, 'y': 6, 'min_height': 3, 'max_height': 5, 'num_towers': 14	567.42
p26	'x': 6, 'y': 6, 'min_height': 3, 'max_height': 5, 'num_towers': 16	1634.71
p27	'x': 6, 'y': 6, 'min_height': 3, 'max_height': 6, 'num_towers': 17	4709.54
p28	'x': 6, 'y': 6, 'min_height': 3, 'max_height': 6, 'num_towers': 19	13568.04
p29	'x': 6, 'y': 6, 'min_height': 3, 'max_height': 6, 'num_towers': 21	39089.13
p30	'x': 6, 'y': 6, 'min_height': 3, 'max_height': 6, 'num_towers': 23	112614.63

## 2.23 Tpp

### Attributes

products	Linear(b=[2, 20], m=[1, 5.0])
markets	Linear(b=[1, 10], m=[0, 5.0])
trucks	Linear(b=[2, 10], m=[0, 5.0])
depots	Linear(b=[1, 10], m=[0, 5.0])
goods	Linear(b=[3, 10], m=[0.1, 5.0])

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	products	markets	trucks	depots	goods	Estimated time
30	2 → 42	1	2	5 → 7	3 → 34	0.58 → 160000.0

### Sequences for agile/satisficing planning

#	products	markets	trucks	depots	goods	Estimated Time
30	2 → 31	3	2 → 13	1 → 64	7 → 12	0.67 → 180000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'products': 2, 'markets': 1, 'trucks': 2, 'depots': 5, 'goods': 3	0.58
p02	'products': 3, 'markets': 1, 'trucks': 2, 'depots': 5, 'goods': 4	0.69
p03	'products': 4, 'markets': 1, 'trucks': 2, 'depots': 5, 'goods': 5	0.87
p04	'products': 6, 'markets': 1, 'trucks': 2, 'depots': 5, 'goods': 6	1.42
p05	'products': 7, 'markets': 1, 'trucks': 2, 'depots': 5, 'goods': 7	2.07
p06	'products': 9, 'markets': 1, 'trucks': 2, 'depots': 5, 'goods': 8	3.55
p07	'products': 10, 'markets': 1, 'trucks': 2, 'depots': 5, 'goods': 9	5.26
p08	'products': 11, 'markets': 1, 'trucks': 2, 'depots': 5, 'goods': 10	8.63
p09	'products': 13, 'markets': 1, 'trucks': 2, 'depots': 5, 'goods': 11	15.03
p10	'products': 14, 'markets': 1, 'trucks': 2, 'depots': 5, 'goods': 12	25.97
p11	'products': 16, 'markets': 1, 'trucks': 2, 'depots': 5, 'goods': 13	39.65
p12	'products': 17, 'markets': 1, 'trucks': 2, 'depots': 6, 'goods': 15	60.92
p13	'products': 18, 'markets': 1, 'trucks': 2, 'depots': 6, 'goods': 16	69.17
p14	'products': 20, 'markets': 1, 'trucks': 2, 'depots': 6, 'goods': 17	104.84
p15	'products': 21, 'markets': 1, 'trucks': 2, 'depots': 6, 'goods': 18	187.34
p16	'products': 22, 'markets': 1, 'trucks': 2, 'depots': 6, 'goods': 19	293.59
p17	'products': 24, 'markets': 1, 'trucks': 2, 'depots': 6, 'goods': 20	460.10
p18	'products': 25, 'markets': 1, 'trucks': 2, 'depots': 6, 'goods': 21	721.06
p19	'products': 27, 'markets': 1, 'trucks': 2, 'depots': 6, 'goods': 22	1130.01
p20	'products': 28, 'markets': 1, 'trucks': 2, 'depots': 6, 'goods': 23	1770.91
p21	'products': 29, 'markets': 1, 'trucks': 2, 'depots': 6, 'goods': 25	2775.31
p22	'products': 31, 'markets': 1, 'trucks': 2, 'depots': 7, 'goods': 26	4349.36
p23	'products': 32, 'markets': 1, 'trucks': 2, 'depots': 7, 'goods': 27	6816.16
p24	'products': 34, 'markets': 1, 'trucks': 2, 'depots': 7, 'goods': 28	10682.03
p25	'products': 35, 'markets': 1, 'trucks': 2, 'depots': 7, 'goods': 29	16740.48
p26	'products': 36, 'markets': 1, 'trucks': 2, 'depots': 7, 'goods': 30	26235.06
p27	'products': 38, 'markets': 1, 'trucks': 2, 'depots': 7, 'goods': 31	41114.60
p28	'products': 39, 'markets': 1, 'trucks': 2, 'depots': 7, 'goods': 32	64433.26
p29	'products': 41, 'markets': 1, 'trucks': 2, 'depots': 7, 'goods': 33	100977.41
p30	'products': 42, 'markets': 1, 'trucks': 2, 'depots': 7, 'goods': 34	158248.02



## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'products': 2, 'markets': 3, 'trucks': 2, 'depots': 1, 'goods': 7	0.67
p02	'products': 3, 'markets': 3, 'trucks': 2, 'depots': 3, 'goods': 7	0.82
p03	'products': 4, 'markets': 3, 'trucks': 2, 'depots': 5, 'goods': 7	1.20
p04	'products': 5, 'markets': 3, 'trucks': 3, 'depots': 7, 'goods': 7	2.24
p05	'products': 6, 'markets': 3, 'trucks': 3, 'depots': 9, 'goods': 7	3.06
p06	'products': 7, 'markets': 3, 'trucks': 3, 'depots': 12, 'goods': 8	6.61
p07	'products': 8, 'markets': 3, 'trucks': 4, 'depots': 14, 'goods': 8	10.14
p08	'products': 9, 'markets': 3, 'trucks': 4, 'depots': 16, 'goods': 8	14.23
p09	'products': 10, 'markets': 3, 'trucks': 5, 'depots': 18, 'goods': 8	22.58
p10	'products': 11, 'markets': 3, 'trucks': 5, 'depots': 20, 'goods': 8	33.78
p11	'products': 12, 'markets': 3, 'trucks': 6, 'depots': 22, 'goods': 8	51.72
p12	'products': 13, 'markets': 3, 'trucks': 6, 'depots': 25, 'goods': 9	89.46
p13	'products': 14, 'markets': 3, 'trucks': 6, 'depots': 27, 'goods': 9	128.16
p14	'products': 15, 'markets': 3, 'trucks': 7, 'depots': 29, 'goods': 9	196.14
p15	'products': 16, 'markets': 3, 'trucks': 7, 'depots': 31, 'goods': 9	300.17
p16	'products': 17, 'markets': 3, 'trucks': 8, 'depots': 33, 'goods': 9	459.38
p17	'products': 18, 'markets': 3, 'trucks': 8, 'depots': 36, 'goods': 10	703.04
p18	'products': 19, 'markets': 3, 'trucks': 8, 'depots': 38, 'goods': 10	1075.94
p19	'products': 20, 'markets': 3, 'trucks': 9, 'depots': 40, 'goods': 10	1646.62
p20	'products': 21, 'markets': 3, 'trucks': 9, 'depots': 42, 'goods': 10	2519.99
p21	'products': 22, 'markets': 3, 'trucks': 10, 'depots': 45, 'goods': 10	3856.61
p22	'products': 23, 'markets': 3, 'trucks': 10, 'depots': 47, 'goods': 11	5902.19
p23	'products': 24, 'markets': 3, 'trucks': 10, 'depots': 49, 'goods': 11	9032.74
p24	'products': 25, 'markets': 3, 'trucks': 11, 'depots': 51, 'goods': 11	13823.77
p25	'products': 26, 'markets': 3, 'trucks': 11, 'depots': 53, 'goods': 11	21155.98
p26	'products': 27, 'markets': 3, 'trucks': 12, 'depots': 56, 'goods': 11	32377.24
p27	'products': 28, 'markets': 3, 'trucks': 12, 'depots': 58, 'goods': 12	49550.33
p28	'products': 29, 'markets': 3, 'trucks': 12, 'depots': 60, 'goods': 12	75832.13
p29	'products': 30, 'markets': 3, 'trucks': 13, 'depots': 62, 'goods': 12	116053.96
p30	'products': 31, 'markets': 3, 'trucks': 13, 'depots': 64, 'goods': 12	177609.71

## 2.24 Transport

### Attributes

size	Constant(1000)
mindistance	Constant(100)
nodes	Linear(b=[2, 60], m=[0, 10])
packages	Linear(b=[2, 10], m=[1, 10])
trucks	Linear(b=[2, 10], m=[0, 5.0])
degree	Enum([3, 4, 5])
generator	Enum(['city-generator.py', 'two-cities-generator.py', 'three-cities-generator.py'])
Duplicated Parameters Penalty: 100.0	

### Sequences for optimal planning

#	nodes	packages	trucks	degree	generator	Estimated time
5	2 → 22	2 → 9	2	3	three-cities-generator.py	0.57 → 1000000.0
6	5	3 → 9	2 → 3	4	two-cities-generator.py	0.78 → 26000.0
11	5	5 → 15	2	5	city-generator.py	0.83 → 110000.0
8	5	7 → 14	2	3	city-generator.py	4.8 → 170000.0

### Sequences for agile/satisficing planning

#	nodes	packages	trucks	degree	generator	Estimated Time
12	32	4 → 19	2 → 3	5	three-cities-generator.py	2.7 → 92000.0
8	19 → 32	18 → 30	24 → 38	5	two-cities-generator.py	46.0 → 46000.0
10	32 → 54	58 → 100	56 → 96	3	city-generator.py	370.0 → 25000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'size': 1000, 'mindistance': 100, 'nodes': 2, 'packages': 2, 'trucks': 2, 'degree': 3, 'generator': 'three-cities-generator.py'	0.57
p02	'size': 1000, 'mindistance': 100, 'nodes': 7, 'packages': 3, 'trucks': 2, 'degree': 3, 'generator': 'three-cities-generator.py'	2.40
p03	'size': 1000, 'mindistance': 100, 'nodes': 12, 'packages': 5, 'trucks': 2, 'degree': 3, 'generator': 'three-cities-generator.py'	180.00
p04	'size': 1000, 'mindistance': 100, 'nodes': 17, 'packages': 7, 'trucks': 2, 'degree': 3, 'generator': 'three-cities-generator.py'	13500.00
p05	'size': 1000, 'mindistance': 100, 'nodes': 22, 'packages': 9, 'trucks': 2, 'degree': 3, 'generator': 'three-cities-generator.py'	1012500.00
p06	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 3, 'trucks': 2, 'degree': 4, 'generator': 'two-cities-generator.py'	0.78
p07	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 4, 'trucks': 2, 'degree': 4, 'generator': 'two-cities-generator.py'	2.10
p08	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 5, 'trucks': 2, 'degree': 4, 'generator': 'two-cities-generator.py'	33.02
p09	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 6, 'trucks': 3, 'degree': 4, 'generator': 'two-cities-generator.py'	304.64
p10	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 8, 'trucks': 3, 'degree': 4, 'generator': 'two-cities-generator.py'	2810.30
p11	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 9, 'trucks': 3, 'degree': 4, 'generator': 'two-cities-generator.py'	25924.94
p12	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 5, 'trucks': 2, 'degree': 5, 'generator': 'city-generator.py'	0.83
p13	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 6, 'trucks': 2, 'degree': 5, 'generator': 'city-generator.py'	1.30
p14	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 7, 'trucks': 2, 'degree': 5, 'generator': 'city-generator.py'	5.71
p15	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 8, 'trucks': 2, 'degree': 5, 'generator': 'city-generator.py'	19.21
p16	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 9, 'trucks': 2, 'degree': 5, 'generator': 'city-generator.py'	50.30
p17	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 10, 'trucks': 2, 'degree': 5, 'generator': 'city-generator.py'	180.00
p18	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 11, 'trucks': 2, 'degree': 5, 'generator': 'city-generator.py'	644.14
p19	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 12, 'trucks': 2, 'degree': 5, 'generator': 'city-generator.py'	2305.06
p20	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 13, 'trucks': 2, 'degree': 5, 'generator': 'city-generator.py'	8248.71
p21	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 14, 'trucks': 2, 'degree': 5, 'generator': 'city-generator.py'	29518.25
p22	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 15, 'trucks': 2, 'degree': 5, 'generator': 'city-generator.py'	105631.90
p23	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 7, 'trucks': 2, 'degree': 3, 'generator': 'city-generator.py'	4.82
p24	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 8, 'trucks': 2, 'degree': 3, 'generator': 'city-generator.py'	25.03
p25	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 9, 'trucks': 2, 'degree': 3, 'generator': 'city-generator.py'	37.03
p26	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 10, 'trucks': 2, 'degree': 3, 'generator': 'city-generator.py'	298.37
p27	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 11, 'trucks': 2, 'degree': 3, 'generator': 'city-generator.py'	1464.50
p28	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 12, 'trucks': 2, 'degree': 3, 'generator': 'city-generator.py'	7188.29
p29	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 13, 'trucks': 2, 'degree': 3, 'generator': 'city-generator.py'	35282.85
p30	'size': 1000, 'mindistance': 100, 'nodes': 5, 'packages': 14, 'trucks': 2, 'degree': 3, 'generator': 'city-generator.py'	173181.48

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'size': 1000, 'mindistance': 100, 'nodes': 32, 'packages': 4, 'trucks': 2, 'degree': 5, 'generator': 'three-cities-generator.py'	2.69
p02	'size': 1000, 'mindistance': 100, 'nodes': 32, 'packages': 5, 'trucks': 2, 'degree': 5, 'generator': 'three-cities-generator.py'	3.18
p03	'size': 1000, 'mindistance': 100, 'nodes': 32, 'packages': 7, 'trucks': 2, 'degree': 5, 'generator': 'three-cities-generator.py'	4.15
p04	'size': 1000, 'mindistance': 100, 'nodes': 32, 'packages': 8, 'trucks': 2, 'degree': 5, 'generator': 'three-cities-generator.py'	4.56
p05	'size': 1000, 'mindistance': 100, 'nodes': 32, 'packages': 10, 'trucks': 2, 'degree': 5, 'generator': 'three-cities-generator.py'	5.41
p06	'size': 1000, 'mindistance': 100, 'nodes': 32, 'packages': 11, 'trucks': 2, 'degree': 5, 'generator': 'three-cities-generator.py'	6.03
p07	'size': 1000, 'mindistance': 100, 'nodes': 32, 'packages': 12, 'trucks': 2, 'degree': 5, 'generator': 'three-cities-generator.py'	6.45
p08	'size': 1000, 'mindistance': 100, 'nodes': 32, 'packages': 14, 'trucks': 2, 'degree': 5, 'generator': 'three-cities-generator.py'	7.47
p09	'size': 1000, 'mindistance': 100, 'nodes': 32, 'packages': 15, 'trucks': 2, 'degree': 5, 'generator': 'three-cities-generator.py'	7.94
p10	'size': 1000, 'mindistance': 100, 'nodes': 32, 'packages': 17, 'trucks': 3, 'degree': 5, 'generator': 'three-cities-generator.py'	180.00
p11	'size': 1000, 'mindistance': 100, 'nodes': 32, 'packages': 18, 'trucks': 3, 'degree': 5, 'generator': 'three-cities-generator.py'	4078.89
p12	'size': 1000, 'mindistance': 100, 'nodes': 32, 'packages': 19, 'trucks': 3, 'degree': 5, 'generator': 'three-cities-generator.py'	92429.78
p13	'size': 1000, 'mindistance': 100, 'nodes': 19, 'packages': 18, 'trucks': 24, 'degree': 5, 'generator': 'two-cities-generator.py'	46.20
p14	'size': 1000, 'mindistance': 100, 'nodes': 21, 'packages': 20, 'trucks': 26, 'degree': 5, 'generator': 'two-cities-generator.py'	59.32
p15	'size': 1000, 'mindistance': 100, 'nodes': 22, 'packages': 21, 'trucks': 28, 'degree': 5, 'generator': 'two-cities-generator.py'	180.00
p16	'size': 1000, 'mindistance': 100, 'nodes': 24, 'packages': 23, 'trucks': 30, 'degree': 5, 'generator': 'two-cities-generator.py'	546.19
p17	'size': 1000, 'mindistance': 100, 'nodes': 26, 'packages': 25, 'trucks': 32, 'degree': 5, 'generator': 'two-cities-generator.py'	1657.35
p18	'size': 1000, 'mindistance': 100, 'nodes': 28, 'packages': 27, 'trucks': 34, 'degree': 5, 'generator': 'two-cities-generator.py'	5029.06
p19	'size': 1000, 'mindistance': 100, 'nodes': 30, 'packages': 29, 'trucks': 36, 'degree': 5, 'generator': 'two-cities-generator.py'	15260.12
p20	'size': 1000, 'mindistance': 100, 'nodes': 32, 'packages': 30, 'trucks': 38, 'degree': 5, 'generator': 'two-cities-generator.py'	46305.15
p21	'size': 1000, 'mindistance': 100, 'nodes': 32, 'packages': 58, 'trucks': 56, 'degree': 3, 'generator': 'city-generator.py'	366.32
p22	'size': 1000, 'mindistance': 100, 'nodes': 34, 'packages': 63, 'trucks': 61, 'degree': 3, 'generator': 'city-generator.py'	585.01
p23	'size': 1000, 'mindistance': 100, 'nodes': 37, 'packages': 67, 'trucks': 65, 'degree': 3, 'generator': 'city-generator.py'	934.26
p24	'size': 1000, 'mindistance': 100, 'nodes': 39, 'packages': 72, 'trucks': 69, 'degree': 3, 'generator': 'city-generator.py'	1492.01
p25	'size': 1000, 'mindistance': 100, 'nodes': 42, 'packages': 77, 'trucks': 74, 'degree': 3, 'generator': 'city-generator.py'	2382.74
p26	'size': 1000, 'mindistance': 100, 'nodes': 44, 'packages': 81, 'trucks': 78, 'degree': 3, 'generator': 'city-generator.py'	3805.23
p27	'size': 1000, 'mindistance': 100, 'nodes': 47, 'packages': 86, 'trucks': 83, 'degree': 3, 'generator': 'city-generator.py'	6076.96
p28	'size': 1000, 'mindistance': 100, 'nodes': 49, 'packages': 91, 'trucks': 87, 'degree': 3, 'generator': 'city-generator.py'	9704.91
p29	'size': 1000, 'mindistance': 100, 'nodes': 52, 'packages': 96, 'trucks': 92, 'degree': 3, 'generator': 'city-generator.py'	15498.75
p30	'size': 1000, 'mindistance': 100, 'nodes': 54, 'packages': 100, 'trucks': 96, 'degree': 3, 'generator': 'city-generator.py'	24751.51

## 2.25 Visitall

### Attributes

grid	Grid(x=[3, 8], m=[0.1, 3.0])
r	Enum([0.5, 0.75, 1])

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	grid	r	Estimated time
20	4-9 → 9-11	0.5	0.97 → 170000.0
10	7-7 → 8-9	0.75	150.0 → 140000.0

### Sequences for agile/satisficing planning

#	grid	r	Estimated Time
30	7-7 → 94-94	0.75	0.42 → 60000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'x': 4, 'y': 9, 'r': 0.5	0.97
p02	'x': 6, 'y': 6, 'r': 0.5	1.01
p03	'x': 5, 'y': 8, 'r': 0.5	1.64
p04	'x': 5, 'y': 9, 'r': 0.5	3.03
p05	'x': 6, 'y': 8, 'r': 0.5	5.53
p06	'x': 7, 'y': 7, 'r': 0.5	5.95
p07	'x': 5, 'y': 10, 'r': 0.5	7.75
p08	'x': 6, 'y': 9, 'r': 0.5	13.31
p09	'x': 7, 'y': 8, 'r': 0.5	18.72
p10	'x': 7, 'y': 9, 'r': 0.5	104.85
p11	'x': 8, 'y': 8, 'r': 0.5	108.86
p12	'x': 6, 'y': 11, 'r': 0.5	202.81
p13	'x': 7, 'y': 10, 'r': 0.5	471.60
p14	'x': 8, 'y': 9, 'r': 0.5	1096.59
p15	'x': 8, 'y': 10, 'r': 0.5	2549.90
p16	'x': 9, 'y': 9, 'r': 0.5	5929.23
p17	'x': 7, 'y': 12, 'r': 0.5	13787.16
p18	'x': 8, 'y': 11, 'r': 0.5	32059.09
p19	'x': 9, 'y': 10, 'r': 0.5	74546.54
p20	'x': 9, 'y': 11, 'r': 0.5	173341.99
p21	'x': 7, 'y': 7, 'r': 0.75	152.36
p22	'x': 5, 'y': 10, 'r': 0.75	233.43
p23	'x': 6, 'y': 9, 'r': 0.75	520.95
p24	'x': 7, 'y': 8, 'r': 0.75	1162.60
p25	'x': 6, 'y': 10, 'r': 0.75	2594.59
p26	'x': 7, 'y': 9, 'r': 0.75	5790.37
p27	'x': 8, 'y': 8, 'r': 0.75	12922.42
p28	'x': 6, 'y': 11, 'r': 0.75	28839.08
p29	'x': 7, 'y': 10, 'r': 0.75	64360.43
p30	'x': 8, 'y': 9, 'r': 0.75	143633.75

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'x': 7, 'y': 7, 'r': 0.75	0.42
p02	'x': 10, 'y': 10, 'r': 0.75	0.47
p03	'x': 13, 'y': 13, 'r': 0.75	0.51
p04	'x': 16, 'y': 16, 'r': 0.75	0.60
p05	'x': 19, 'y': 19, 'r': 0.75	0.76
p06	'x': 22, 'y': 22, 'r': 0.75	0.99
p07	'x': 25, 'y': 25, 'r': 0.75	1.34
p08	'x': 28, 'y': 28, 'r': 0.75	1.76
p09	'x': 31, 'y': 31, 'r': 0.75	2.49
p10	'x': 34, 'y': 34, 'r': 0.75	3.96
p11	'x': 37, 'y': 37, 'r': 0.75	6.90
p12	'x': 40, 'y': 40, 'r': 0.75	10.04
p13	'x': 43, 'y': 43, 'r': 0.75	16.52
p14	'x': 46, 'y': 46, 'r': 0.75	30.48
p15	'x': 49, 'y': 49, 'r': 0.75	39.48
p16	'x': 52, 'y': 52, 'r': 0.75	65.19
p17	'x': 55, 'y': 55, 'r': 0.75	122.72
p18	'x': 58, 'y': 58, 'r': 0.75	188.59
p19	'x': 61, 'y': 61, 'r': 0.75	304.73
p20	'x': 64, 'y': 64, 'r': 0.75	492.40
p21	'x': 67, 'y': 67, 'r': 0.75	795.64
p22	'x': 70, 'y': 70, 'r': 0.75	1285.63
p23	'x': 73, 'y': 73, 'r': 0.75	2077.38
p24	'x': 76, 'y': 76, 'r': 0.75	3356.74
p25	'x': 79, 'y': 79, 'r': 0.75	5423.98
p26	'x': 82, 'y': 82, 'r': 0.75	8764.34
p27	'x': 85, 'y': 85, 'r': 0.75	14161.85
p28	'x': 88, 'y': 88, 'r': 0.75	22883.42
p29	'x': 91, 'y': 91, 'r': 0.75	36976.16
p30	'x': 94, 'y': 94, 'r': 0.75	59747.91

## 2.26 Woodworking

### Attributes

size	Linear(b=[2, 30], m=[1, 10])
num_machines	Enum([1, 2, 3])
wood_factor	Enum([1.0, 1.25, 1.5, 2.0])

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	size	num_machines	wood_factor	Estimated time
18	2 → 22	1	1.25	0.56 → 130000.0
12	10 → 22	1	1.5	44.0 → 130000.0

### Sequences for agile/satisficing planning

#	size	num_machines	wood_factor	Estimated Time
18	2 → 139	2	2.0	0.25 → 23000.0
12	79 → 150	3	1.25	360.0 → 46000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'size': 2, 'num_machines': 1, 'wood_factor': 1.25	0.56
p02	'size': 3, 'num_machines': 1, 'wood_factor': 1.25	0.63
p03	'size': 4, 'num_machines': 1, 'wood_factor': 1.25	0.69
p04	'size': 5, 'num_machines': 1, 'wood_factor': 1.25	0.78
p05	'size': 6, 'num_machines': 1, 'wood_factor': 1.25	0.92
p06	'size': 8, 'num_machines': 1, 'wood_factor': 1.25	1.78
p07	'size': 9, 'num_machines': 1, 'wood_factor': 1.25	10.08
p08	'size': 10, 'num_machines': 1, 'wood_factor': 1.25	21.09
p09	'size': 11, 'num_machines': 1, 'wood_factor': 1.25	62.00
p10	'size': 12, 'num_machines': 1, 'wood_factor': 1.25	160.33
p11	'size': 13, 'num_machines': 1, 'wood_factor': 1.25	178.69
p12	'size': 15, 'num_machines': 1, 'wood_factor': 1.25	327.64
p13	'size': 16, 'num_machines': 1, 'wood_factor': 1.25	886.66
p14	'size': 17, 'num_machines': 1, 'wood_factor': 1.25	2399.48
p15	'size': 18, 'num_machines': 1, 'wood_factor': 1.25	6493.45
p16	'size': 19, 'num_machines': 1, 'wood_factor': 1.25	17572.54
p17	'size': 21, 'num_machines': 1, 'wood_factor': 1.25	47554.70
p18	'size': 22, 'num_machines': 1, 'wood_factor': 1.25	128692.28
p19	'size': 10, 'num_machines': 1, 'wood_factor': 1.5	44.34
p20	'size': 11, 'num_machines': 1, 'wood_factor': 1.5	88.74
p21	'size': 12, 'num_machines': 1, 'wood_factor': 1.5	130.49
p22	'size': 13, 'num_machines': 1, 'wood_factor': 1.5	207.92
p23	'size': 15, 'num_machines': 1, 'wood_factor': 1.5	464.54
p24	'size': 16, 'num_machines': 1, 'wood_factor': 1.5	1037.88
p25	'size': 17, 'num_machines': 1, 'wood_factor': 1.5	2318.81
p26	'size': 18, 'num_machines': 1, 'wood_factor': 1.5	5180.68
p27	'size': 19, 'num_machines': 1, 'wood_factor': 1.5	11574.65
p28	'size': 20, 'num_machines': 1, 'wood_factor': 1.5	25860.02
p29	'size': 21, 'num_machines': 1, 'wood_factor': 1.5	57776.30
p30	'size': 22, 'num_machines': 1, 'wood_factor': 1.5	129083.47

## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'size': 2, 'num_machines': 2, 'wood_factor': 2.0	0.25
p02	'size': 10, 'num_machines': 2, 'wood_factor': 2.0	0.62
p03	'size': 18, 'num_machines': 2, 'wood_factor': 2.0	3.16
p04	'size': 26, 'num_machines': 2, 'wood_factor': 2.0	10.96
p05	'size': 34, 'num_machines': 2, 'wood_factor': 2.0	21.88
p06	'size': 42, 'num_machines': 2, 'wood_factor': 2.0	36.87
p07	'size': 50, 'num_machines': 2, 'wood_factor': 2.0	53.97
p08	'size': 58, 'num_machines': 2, 'wood_factor': 2.0	72.52
p09	'size': 66, 'num_machines': 2, 'wood_factor': 2.0	103.91
p10	'size': 74, 'num_machines': 2, 'wood_factor': 2.0	165.97
p11	'size': 83, 'num_machines': 2, 'wood_factor': 2.0	307.89
p12	'size': 91, 'num_machines': 2, 'wood_factor': 2.0	571.16
p13	'size': 99, 'num_machines': 2, 'wood_factor': 2.0	1059.56
p14	'size': 107, 'num_machines': 2, 'wood_factor': 2.0	1965.58
p15	'size': 115, 'num_machines': 2, 'wood_factor': 2.0	3646.32
p16	'size': 123, 'num_machines': 2, 'wood_factor': 2.0	6764.26
p17	'size': 131, 'num_machines': 2, 'wood_factor': 2.0	12548.30
p18	'size': 139, 'num_machines': 2, 'wood_factor': 2.0	23278.21
p19	'size': 79, 'num_machines': 3, 'wood_factor': 1.25	359.78
p20	'size': 86, 'num_machines': 3, 'wood_factor': 1.25	559.25
p21	'size': 92, 'num_machines': 3, 'wood_factor': 1.25	869.30
p22	'size': 99, 'num_machines': 3, 'wood_factor': 1.25	1351.25
p23	'size': 105, 'num_machines': 3, 'wood_factor': 1.25	2100.40
p24	'size': 111, 'num_machines': 3, 'wood_factor': 1.25	3264.89
p25	'size': 118, 'num_machines': 3, 'wood_factor': 1.25	5074.98
p26	'size': 124, 'num_machines': 3, 'wood_factor': 1.25	7888.60
p27	'size': 131, 'num_machines': 3, 'wood_factor': 1.25	12262.13
p28	'size': 137, 'num_machines': 3, 'wood_factor': 1.25	19060.38
p29	'size': 143, 'num_machines': 3, 'wood_factor': 1.25	29627.67
p30	'size': 150, 'num_machines': 3, 'wood_factor': 1.25	46053.57

## 2.27 Zenotravel

### Attributes

planes	Linear(b=[1, 20], m=[0, 1])
people	Linear(b=[5, 20], m=[1, 10])
cities	Linear(b=[3, 30], m=[0, 5.0])

Duplicated Parameters Penalty: 100.0

### Sequences for optimal planning

#	planes	people	cities	Estimated time
5	1 → 5	6 → 10	4 → 8	0.55 → 38000.0
5	2 → 6	6 → 12	4 → 8	0.7 → 28000.0
5	4 → 5	8 → 12	4 → 5	2.2 → 72000.0
5	1	8 → 12	10 → 14	5.0 → 31000.0
5	3 → 5	9 → 13	5 → 7	9.0 → 93000.0
5	2 → 3	8 → 13	6 → 11	44.0 → 67000.0

### Sequences for agile/satisficing planning

#	planes	people	cities	Estimated Time
30	6 → 32	5 → 48	17 → 130	4.5 → 140000.0

### Tasks for optimal planning

name	config	estimated_time
p01	'planes': 1, 'people': 6, 'cities': 4	0.55
p02	'planes': 2, 'people': 7, 'cities': 5	11.57
p03	'planes': 3, 'people': 8, 'cities': 6	139.76
p04	'planes': 4, 'people': 9, 'cities': 7	2309.46
p05	'planes': 5, 'people': 10, 'cities': 8	38161.66
p06	'planes': 2, 'people': 6, 'cities': 4	0.70
p07	'planes': 3, 'people': 8, 'cities': 5	10.96
p08	'planes': 4, 'people': 9, 'cities': 6	139.99
p09	'planes': 5, 'people': 11, 'cities': 7	1990.39
p10	'planes': 6, 'people': 12, 'cities': 8	28299.45
p11	'planes': 4, 'people': 8, 'cities': 4	2.16
p12	'planes': 4, 'people': 9, 'cities': 4	63.30
p13	'planes': 5, 'people': 10, 'cities': 5	258.52
p14	'planes': 5, 'people': 11, 'cities': 5	4321.77
p15	'planes': 5, 'people': 12, 'cities': 5	72247.65
p16	'planes': 1, 'people': 8, 'cities': 10	5.00
p17	'planes': 1, 'people': 9, 'cities': 11	101.59
p18	'planes': 1, 'people': 10, 'cities': 12	241.93
p19	'planes': 1, 'people': 11, 'cities': 13	2746.01
p20	'planes': 1, 'people': 12, 'cities': 14	31169.03
p21	'planes': 3, 'people': 9, 'cities': 5	9.02
p22	'planes': 3, 'people': 10, 'cities': 5	80.82
p23	'planes': 4, 'people': 11, 'cities': 6	846.41
p24	'planes': 4, 'people': 12, 'cities': 7	8864.64
p25	'planes': 5, 'people': 13, 'cities': 7	92841.25
p26	'planes': 2, 'people': 8, 'cities': 6	43.96
p27	'planes': 2, 'people': 9, 'cities': 7	139.83
p28	'planes': 3, 'people': 10, 'cities': 9	1096.24
p29	'planes': 3, 'people': 12, 'cities': 10	8594.02
p30	'planes': 3, 'people': 13, 'cities': 11	67373.37



## Tasks for agile/satisficing planning

name	config	estimated_time
p01	'planes': 6, 'people': 5, 'cities': 17	4.45
p02	'planes': 6, 'people': 6, 'cities': 20	6.70
p03	'planes': 7, 'people': 8, 'cities': 24	10.47
p04	'planes': 8, 'people': 9, 'cities': 28	16.68
p05	'planes': 9, 'people': 11, 'cities': 32	27.30
p06	'planes': 10, 'people': 12, 'cities': 36	37.10
p07	'planes': 11, 'people': 14, 'cities': 40	52.69
p08	'planes': 12, 'people': 15, 'cities': 44	70.64
p09	'planes': 13, 'people': 17, 'cities': 48	97.07
p10	'planes': 14, 'people': 18, 'cities': 52	128.43
p11	'planes': 15, 'people': 20, 'cities': 55	161.64
p12	'planes': 15, 'people': 21, 'cities': 59	231.13
p13	'planes': 16, 'people': 23, 'cities': 63	330.49
p14	'planes': 17, 'people': 24, 'cities': 67	472.56
p15	'planes': 18, 'people': 26, 'cities': 71	675.71
p16	'planes': 19, 'people': 27, 'cities': 75	966.19
p17	'planes': 20, 'people': 29, 'cities': 79	1381.54
p18	'planes': 21, 'people': 30, 'cities': 83	1975.44
p19	'planes': 22, 'people': 32, 'cities': 87	2824.65
p20	'planes': 23, 'people': 33, 'cities': 91	4038.92
p21	'planes': 23, 'people': 35, 'cities': 95	5775.19
p22	'planes': 24, 'people': 36, 'cities': 98	8257.86
p23	'planes': 25, 'people': 38, 'cities': 102	11807.78
p24	'planes': 26, 'people': 39, 'cities': 106	16883.76
p25	'planes': 27, 'people': 41, 'cities': 110	24141.83
p26	'planes': 28, 'people': 42, 'cities': 114	34520.02
p27	'planes': 29, 'people': 44, 'cities': 118	49359.63
p28	'planes': 30, 'people': 45, 'cities': 122	70578.56
p29	'planes': 31, 'people': 47, 'cities': 126	100919.17
p30	'planes': 32, 'people': 48, 'cities': 130	144302.73

## 2.28 Agricola

### Tasks for optimal planning

name	config	baseline_time	sota_time
p01	p-empty-3-3-1656261043.pddl	254.95	11.89
p02	p-empty-3-4-311607620.pddl	—	22.28
p03	p-empty-3-5-521102280.pddl	334.52	42.95
p04	p-empty-3-7-550290313.pddl	—	166.45
p05	p-empty-4-7-852697554.pddl	—	765.04
p06	p-empty-6-8-71303735.pddl	—	—
p07	p-empty-6-12-1688291518.pddl	—	—
p08	p-empty-3-3-2043812384.pddl	170.44	12.71
p09	p-empty-3-4-1792580136.pddl	328.76	22.00
p10	p-empty-3-5-1688291518.pddl	—	55.13
p11	p-empty-4-7-441365315.pddl	—	485.71
p12	p-empty-4-9-531110876.pddl	—	—
p13	p-empty-4-10-817261659.pddl	—	1479.26
p14	p-empty-4-13-1454912894.pddl	—	—
p15	p-empty-3-4-2074063949.pddl	—	24.07
p16	p-empty-4-4-1922988331.pddl	—	37.54
p17	p-empty-5-4-852697554.pddl	—	145.38
p18	p-empty-8-4-649811619.pddl	—	2013.08
p19	p-empty-10-5-887852006.pddl	—	—
p20	p-empty-11-5-275971437.pddl	—	—
p21	p-must_create_workers-3-5-5855357.pddl	—	60.09
p22	p-must_create_workers-4-5-254862438.pddl	—	109.70
p23	p-must_create_workers-6-5-1794538319.pddl	—	—
p24	p-must_create_workers-7-5-2053992125.pddl	—	2792.61
p25	p-must_create_workers-9-5-216198421.pddl	—	—
p26	p-must_create_workers-6-5-0.pddl	—	965.04
p27	p-must_create_workers-7-5-1323345508.pddl	—	2522.58
p28	p-must_create_workers-9-5-946582365.pddl	—	—
p29	p-must_create_workers-10-5-1251420212.pddl	—	—
p30	p-must_create_workers-11-5-1562238070.pddl	—	—

### Tasks for agile/satisficing planning

name	config	baseline_time	sota_time
p01	p-empty-3-3-1325499003.pddl	4.39	2.76
p02	p-empty-3-4-1922988331.pddl	8.44	5.09
p03	p-empty-4-4-1922988331.pddl	11.26	6.15
p04	p-empty-8-4-1783957654.pddl	29.24	11.83
p05	p-empty-9-5-521102280.pddl	53.02	21.45
p06	p-empty-10-5-1562238070.pddl	64.89	25.10
p07	p-empty-11-8-1552451885.pddl	299.40	114.61
p08	p-empty-11-9-624763951.pddl	243.84	98.25
p09	p-empty-11-10-1373722763.pddl	366.01	199.19
p10	p-empty-12-10-1140404166.pddl	625.95	252.59
p11	p-empty-3-3-1922988331.pddl	4.48	2.87
p12	p-empty-3-4-213298710.pddl	11.39	4.77
p13	p-empty-4-4-213298710.pddl	15.57	6.04
p14	p-empty-5-4-649811619.pddl	16.61	7.97
p15	p-empty-8-4-2043812384.pddl	35.98	11.39
p16	p-empty-9-5-1249426360.pddl	83.37	22.99
p17	p-empty-9-6-852697554.pddl	135.79	28.26
p18	p-empty-9-7-1107361603.pddl	252.71	40.65
p19	p-empty-12-8-1537364731.pddl	238.74	84.54
p20	p-empty-12-10-700285428.pddl	840.38	204.72
p21	p-empty-3-3-441365315.pddl	4.76	2.94
p22	p-empty-3-4-311607620.pddl	11.07	5.22
p23	p-empty-3-5-1249426360.pddl	17.91	8.78
p24	p-empty-3-7-1100262711.pddl	40.26	16.62
p25	p-empty-4-7-1537364731.pddl	45.72	24.07
p26	p-empty-6-8-213298710.pddl	177.02	47.48
p27	p-empty-6-9-441365315.pddl	137.22	70.91
p28	p-empty-8-9-574014784.pddl	347.56	81.00
p29	p-empty-9-11-1942519002.pddl	784.47	184.63
p30	p-empty-10-11-1389126323.pddl	402.44	321.21

## 2.29 Airport

### Tasks for optimal planning

name	config	baseline_time	sota_time
p01	p21-airport4halfMUC-p2.pddl	3.36	3.36
p02	p22-airport4halfMUC-p3.pddl	80.96	4.85
p03	p23-airport4halfMUC-p4.pddl	—	5.76
p04	p24-airport4halfMUC-p4.pddl	—	5.79
p05	p25-airport4halfMUC-p5.pddl	—	18.76
p06	p26-airport4halfMUC-p6.pddl	—	84.13
p07	p27-airport4halfMUC-p6.pddl	—	37.62
p08	p28-airport4halfMUC-p7.pddl	—	1930.58
p09	p29-airport4halfMUC-p8.pddl	—	—
p10	p30-airport4halfMUC-p8.pddl	—	1821.92
p11	p31-airport4halfMUC-p9.pddl	—	2365.58
p12	p32-airport4halfMUC-p10.pddl	—	—
p13	p33-airport4halfMUC-p10.pddl	—	2871.16
p14	p34-airport4halfMUC-p11.pddl	—	—
p15	p35-airport4halfMUC-p12.pddl	—	—
p16	p36-airport5MUC-p2.pddl	6.23	4.91
p17	p37-airport5MUC-p3.pddl	1565.18	70.26
p18	p38-airport5MUC-p3.pddl	814.93	103.83
p19	p39-airport5MUC-p4.pddl	—	635.27
p20	p40-airport5MUC-p4.pddl	—	494.93
p21	p41-airport5MUC-p4.pddl	—	320.65
p22	p42-airport5MUC-p5.pddl	—	1164.92
p23	p43-airport5MUC-p5.pddl	—	940.27
p24	p44-airport5MUC-p5.pddl	—	2830.65
p25	p45-airport5MUC-p6.pddl	—	—
p26	p46-airport5MUC-p6.pddl	—	1619.95
p27	p47-airport5MUC-p8.pddl	—	—
p28	p48-airport5MUC-p9.pddl	—	—
p29	p49-airport5MUC-p10.pddl	—	—
p30	p50-airport5MUC-p15.pddl	—	—

### Tasks for agile/satisficing planning

name	config	baseline_time	sota_time
p01	p21-airport4halfMUC-p2.pddl	3.25	2.54
p02	p22-airport4halfMUC-p3.pddl	4.21	4.21
p03	p23-airport4halfMUC-p4.pddl	4.50	4.50
p04	p24-airport4halfMUC-p4.pddl	5.47	5.47
p05	p25-airport4halfMUC-p5.pddl	28.00	22.24
p06	p26-airport4halfMUC-p6.pddl	1007.84	28.42
p07	p27-airport4halfMUC-p6.pddl	12401.10	15.91
p08	p28-airport4halfMUC-p7.pddl	9.99	9.99
p09	p29-airport4halfMUC-p8.pddl	—	40.75
p10	p30-airport4halfMUC-p8.pddl	—	39.05
p11	p31-airport4halfMUC-p9.pddl	—	78.90
p12	p32-airport4halfMUC-p10.pddl	—	93.83
p13	p33-airport4halfMUC-p10.pddl	—	99.46
p14	p34-airport4halfMUC-p11.pddl	—	108.96
p15	p35-airport4halfMUC-p12.pddl	—	110.62
p16	p36-airport5MUC-p2.pddl	4.54	4.29
p17	p37-airport5MUC-p3.pddl	6.33	6.33
p18	p38-airport5MUC-p3.pddl	6.14	6.14
p19	p39-airport5MUC-p4.pddl	1187.32	32.60
p20	p40-airport5MUC-p4.pddl	27.58	12.59
p21	p41-airport5MUC-p4.pddl	8.24	8.24
p22	p42-airport5MUC-p5.pddl	—	33.45
p23	p43-airport5MUC-p5.pddl	18.62	18.62
p24	p44-airport5MUC-p5.pddl	16.62	13.20
p25	p45-airport5MUC-p6.pddl	675.23	18.57
p26	p46-airport5MUC-p6.pddl	—	90.65
p27	p47-airport5MUC-p8.pddl	—	221.20
p28	p48-airport5MUC-p9.pddl	—	11994.60
p29	p49-airport5MUC-p10.pddl	—	12040.80
p30	p50-airport5MUC-p15.pddl	—	—

## 2.30 Freecell

### Tasks for optimal planning

name	config	baseline_time	sota_time
p01	p-4-4-3-8-0.pddl	19.70	1.44
p02	p-2-8-5-4-0.pddl	28.06	0.79
p03	p-3-5-5-9-0.pddl	73.85	3.05
p04	p-3-5-2-8-0.pddl	93.57	4.15
p05	p-3-8-8-5-0.pddl	228.83	1.10
p06	p-2-6-5-6-0.pddl	283.54	1.22
p07	p-3-7-7-9-0.pddl	—	3.43
p08	p-4-6-2-11-0.pddl	—	16.49
p09	p-4-6-3-9-0.pddl	—	50.97
p10	p-2-7-5-12-0.pddl	—	82.14
p11	p-2-8-5-9-0.pddl	—	101.53
p12	p-4-6-5-12-0.pddl	—	124.42
p13	p-3-8-3-11-0.pddl	—	341.12
p14	p-3-7-6-14-0.pddl	—	366.61
p15	p-2-8-7-12-0.pddl	—	653.55
p16	p-3-8-7-12-0.pddl	—	1236.84
p17	p-4-7-4-12-0.pddl	—	1246.12
p18	p-4-8-5-11-0.pddl	—	4182.63
p19	p-4-8-3-16-0.pddl	—	4958.05
p20	p-2-8-8-14-0.pddl	—	—
p21	p-4-8-5-14-0.pddl	—	—
p22	p-4-7-6-12-0.pddl	—	700.14
p23	p-4-8-6-14-0.pddl	—	1261.23
p24	p-3-8-5-12-0.pddl	—	3370.70
p25	p-4-8-7-13-0.pddl	—	4529.85
p26	p-3-8-8-16-0.pddl	—	5927.86
p27	p-4-8-5-12-0.pddl	—	—
p28	p-3-8-5-14-0.pddl	—	—
p29	p-3-8-7-14-0.pddl	—	—
p30	p-4-8-8-17-0.pddl	—	—

### Tasks for agile/satisficing planning

name	config	baseline_time	sota_time
p01	p-3-5-2-3-0.pddl	0.60	0.18
p02	p-2-6-4-4-0.pddl	0.65	0.24
p03	p-3-7-5-4-0.pddl	0.77	0.24
p04	p-2-5-2-6-0.pddl	0.82	0.30
p05	p-4-3-3-6-0.pddl	0.80	0.31
p06	p-2-8-1-5-0.pddl	0.87	0.32
p07	p-2-6-6-7-0.pddl	0.93	0.36
p08	p-3-7-5-6-0.pddl	0.96	0.41
p09	p-4-3-3-7-0.pddl	0.89	0.42
p10	p-3-8-5-6-0.pddl	1.01	0.44
p11	p-3-5-3-8-0.pddl	1.22	0.72
p12	p-4-8-5-11-0.pddl	2.30	1.32
p13	p-4-7-5-11-0.pddl	2.02	2.02
p14	p-2-8-4-12-0.pddl	4.44	2.06
p15	p-4-7-3-13-0.pddl	4.12	2.56
p16	p-3-8-6-11-0.pddl	7.69	1.20
p17	p-4-6-4-14-0.pddl	13.93	2.95
p18	p-2-8-6-14-0.pddl	22.07	4.30
p19	p-3-8-5-14-0.pddl	57.59	4.56
p20	p-4-7-2-11-0.pddl	102.93	2.21
p21	p-3-8-8-16-0.pddl	513.70	4.20
p22	p-4-8-4-13-0.pddl	17006.20	4.61
p23	p-4-8-4-16-0.pddl	80.79	6.99
p24	p-4-8-8-14-0.pddl	173.68	6.97
p25	p-4-6-5-14-0.pddl	508.83	8.44
p26	p-3-8-6-15-0.pddl	948.62	5.84
p27	p-4-8-3-16-0.pddl	1252.62	7.16
p28	p-4-8-8-18-0.pddl	—	11.42
p29	p-4-8-7-18-0.pddl	829.63	54.55
p30	p-2-8-6-15-0.pddl	4399.37	563.68

## 2.31 Ged

### Tasks for optimal planning

name	config	baseline_time	sota_time
p01	d-1-2.pddl	0.65	0.62
p02	d-2-4.pddl	0.67	0.67
p03	d-4-2.pddl	0.69	0.67
p04	d-3-2.pddl	0.74	0.74
p05	d-2-3.pddl	0.80	0.77
p06	d-1-3.pddl	1.75	1.75
p07	d-7-6.pddl	2.21	2.15
p08	d-7-5.pddl	5.29	2.85
p09	d-1-8.pddl	5.40	2.97
p10	d-8-1.pddl	5.24	3.70
p11	d-3-4.pddl	23.99	5.80
p12	d-4-3.pddl	22.90	6.81
p13	d-4-8.pddl	—	44.41
p14	d-2-8.pddl	—	47.28
p15	d-8-2.pddl	—	48.56
p16	d-8-4.pddl	—	48.62
p17	d-8-9.pddl	—	353.06
p18	d-10-1.pddl	—	—
p19	d-10-2.pddl	—	—
p20	ds1-d-4-5.pddl	0.74	0.74
p21	ds1-d-5-4.pddl	0.76	0.76
p22	ds1-d-7-6.pddl	—	37.47
p23	ds1-d-6-7.pddl	—	50.90
p24	ds1-d-8-5.pddl	—	—
p25	ds1-d-8-4.pddl	—	—
p26	ds2nd-d-6-7.pddl	2.15	2.12
p27	ds2nd-d-5-7.pddl	5.28	2.96
p28	ds2nd-d-9-8.pddl	—	357.53
p29	ds2nd-d-8-3.pddl	—	—
p30	ds2nd-d-1-7.pddl	—	—

### Tasks for agile/satisficing planning

name	config	baseline_time	sota_time
p01	ds1-d-5-4.pddl	0.74	0.17
p02	ds1-d-6-7.pddl	4.14	0.29
p03	ds1-d-7-6.pddl	2.01	0.30
p04	ds1-d-1-4.pddl	—	1.89
p05	ds1-d-8-5.pddl	—	1.93
p06	ds1-d-8-4.pddl	—	2.02
p07	ds1-d-5-1.pddl	—	2.36
p08	ds1-d-1-3.pddl	—	3.01
p09	ds1-d-11-10.pddl	—	3.16
p10	ds1-d-10-11.pddl	—	3.24
p11	ds1-d-5-9.pddl	—	4.41
p12	ds1-d-4-2.pddl	—	5.74
p13	ds1-d-9-3.pddl	—	5.93
p14	ds1-d-8-11.pddl	—	6.30
p15	ds1-d-10-8.pddl	—	6.70
p16	ds1-d-4-7.pddl	—	7.49
p17	ds1-d-7-8.pddl	—	7.59
p18	ds1-d-9-2.pddl	—	7.59
p19	ds1-d-10-1.pddl	—	7.74
p20	ds1-d-5-11.pddl	—	8.16
p21	ds1-d-6-2.pddl	—	8.70
p22	ds1-d-11-2.pddl	—	8.81
p23	ds1-d-1-11.pddl	—	8.97
p24	ds1-d-10-2.pddl	—	9.21
p25	ds1-d-3-11.pddl	—	9.48
p26	ds1-d-10-5.pddl	—	9.78
p27	ds1-d-11-5.pddl	—	9.82
p28	ds1-d-2-10.pddl	—	10.54
p29	ds1-d-6-10.pddl	—	23.49
p30	ds1-d-3-9.pddl	—	1148.80

## 2.32 Mprime

### Tasks for optimal planning

name	config	baseline_time	sota_time
p01	p-2-8-4-2-6-0.pddl	26.20	1.30
p02	p-5-6-5-1-1-0.pddl	28.45	1.44
p03	p-2-10-3-1-1-0.pddl	77.67	1.69
p04	p-2-8-4-3-3-0.pddl	129.14	2.74
p05	p-8-3-5-2-4-0.pddl	199.69	0.65
p06	p-8-6-4-3-2-0.pddl	—	5.62
p07	p-2-10-10-2-1-0.pddl	—	8.23
p08	p-10-3-3-2-6-0.pddl	—	54.23
p09	p-10-6-3-2-2-0.pddl	—	113.04
p10	p-6-8-10-3-2-0.pddl	—	197.38
p11	p-8-5-8-3-8-0.pddl	—	312.78
p12	p-12-4-3-3-6-0.pddl	—	399.91
p13	p-8-5-10-1-4-0.pddl	—	409.82
p14	p-3-10-5-1-4-0.pddl	—	682.34
p15	p-12-3-5-2-6-0.pddl	—	954.49
p16	p-10-5-8-2-6-0.pddl	—	1008.16
p17	p-8-4-6-2-6-0.pddl	—	2538.21
p18	p-12-4-8-2-4-0.pddl	—	8661.89
p19	p-10-5-10-2-8-0.pddl	—	—
p20	p-10-10-10-4-10-0.pddl	—	—
p21	p-5-15-15-2-12-0.pddl	—	—
p22	p-12-4-4-3-6-0.pddl	—	674.24
p23	p-5-6-6-2-8-0.pddl	—	674.92
p24	p-6-8-10-1-3-0.pddl	—	795.05
p25	p-8-4-3-2-6-0.pddl	—	2762.75
p26	p-12-4-6-2-4-0.pddl	—	8705.30
p27	p-15-5-15-4-12-0.pddl	—	—
p28	p-5-10-10-2-3-0.pddl	—	—
p29	p-12-6-6-3-8-0.pddl	—	—
p30	p-5-10-10-4-12-0.pddl	—	—

### Tasks for agile/satisficing planning

name	config	baseline_time	sota_time
p01	p-6-10-8-3-3-0.pddl	16.52	1.23
p02	p-10-5-15-2-8-0.pddl	25.10	0.73
p03	p-5-10-6-1-1-0.pddl	52.46	0.76
p04	p-3-10-5-1-4-0.pddl	62.42	0.39
p05	p-10-6-8-3-2-0.pddl	96.65	0.64
p06	p-10-6-10-1-1-0.pddl	172.90	0.87
p07	p-5-10-10-2-12-0.pddl	—	2.46
p08	p-10-15-10-4-10-0.pddl	—	14.24
p09	p-10-20-10-4-12-0.pddl	—	29.10
p10	p-35-10-15-4-8-0.pddl	—	40.42
p11	p-10-20-15-2-12-0.pddl	—	62.07
p12	p-15-25-15-4-14-0.pddl	—	138.71
p13	p-50-5-15-2-16-0.pddl	—	200.31
p14	p-45-5-15-2-12-0.pddl	—	228.11
p15	p-12-5-4-2-8-0.pddl	—	594.47
p16	p-15-25-10-2-8-0.pddl	—	3502.73
p17	p-20-25-10-2-16-0.pddl	—	7184.88
p18	p-40-15-15-2-16-0.pddl	—	7299.34
p19	p-40-15-10-4-6-0.pddl	—	11366.50
p20	p-20-15-10-2-12-0.pddl	—	11630.70
p21	p-25-20-15-4-16-0.pddl	—	3064.28
p22	p-45-20-15-4-12-0.pddl	—	5681.51
p23	p-25-10-10-4-12-0.pddl	—	7387.53
p24	p-25-15-10-2-16-0.pddl	—	10682.20
p25	p-35-20-10-4-10-0.pddl	—	11527.20
p26	p-12-6-3-3-8-0.pddl	3224.07	3079.95
p27	p-20-20-10-2-8-0.pddl	—	4477.73
p28	p-35-20-15-4-12-0.pddl	—	4510.78
p29	p-40-15-15-2-14-0.pddl	—	7207.22
p30	p-25-15-15-4-2-0.pddl	—	10744.90

## 2.33 Mystery

### Tasks for optimal planning

name	config	baseline_time	sota_time
------	--------	---------------	-----------

### Tasks for agile/satisficing planning

name	config	baseline_time	sota_time
------	--------	---------------	-----------

## 2.34 Organic-synthesis-split

### Tasks for optimal planning

name	config	baseline_time	sota_time
p01	MIT-p4.pddl	28.37	27.98
p02	MIT-p6.pddl	77.36	32.54
p03	MIT-p8.pddl	36.90	37.24
p04	MIT-p3.pddl	38.97	37.57
p05	MIT-p15.pddl	44.62	42.14
p06	MIT-p2.pddl	48.83	42.17
p07	MIT-p14.pddl	231.09	41.67
p08	MIT-p9.pddl	89.92	45.16
p09	MIT-p20.pddl	—	47.55
p10	MIT-p19.pddl	245.16	60.98
p11	MIT-p7.pddl	120.08	120.08
p12	MIT-p12.pddl	—	131.48
p13	MIT-p5.pddl	—	431.10
p14	MIT-p11.pddl	—	479.03
p15	MIT-p17.pddl	—	617.71
p16	MIT-p16.pddl	—	896.13
p17	MIT-p13.pddl	—	906.57
p18	MIT-p10.pddl	—	2101.53
p19	original-p2.pddl	—	227.16
p20	original-p6.pddl	—	324.73
p21	original-p4.pddl	—	1180.72
p22	original-p5.pddl	—	2897.17
p23	original-p19.pddl	—	3730.44
p24	original-p13.pddl	—	7661.83
p25	original-p10.pddl	—	—
p26	original-p3.pddl	—	—
p27	original-p14.pddl	—	—
p28	original-p8.pddl	—	—
p29	original-p7.pddl	—	—
p30	original-p16.pddl	—	—

### Tasks for agile/satisficing planning

name	config	baseline_time	sota_time
p01	original-p6.pddl	39.23	8.16
p02	original-p4.pddl	92.05	41.67
p03	original-p2.pddl	57.54	50.10
p04	original-p19.pddl	710.79	60.50
p05	original-p10.pddl	100.43	100.43
p06	original-p5.pddl	149.19	149.19
p07	original-p13.pddl	330.62	149.12
p08	original-p3.pddl	288.73	288.73
p09	original-p14.pddl	1005.07	441.49
p10	original-p8.pddl	1152.30	525.75
p11	original-p7.pddl	2278.40	1129.24
p12	original-p16.pddl	—	2048.55
p13	original-p9.pddl	—	6465.11
p14	original-p20.pddl	—	6970.53
p15	original-p11.pddl	—	9004.03
p16	original-p1.pddl	—	—
p17	original-p12.pddl	—	—
p18	original-p15.pddl	—	—
p19	original-p17.pddl	—	—
p20	MIT-p9.pddl	38.71	14.21
p21	MIT-p7.pddl	45.07	18.65
p22	MIT-p19.pddl	48.54	18.73
p23	MIT-p20.pddl	50.01	23.88
p24	MIT-p16.pddl	46.13	24.58
p25	MIT-p11.pddl	46.09	30.98
p26	MIT-p17.pddl	62.51	62.51
p27	MIT-p13.pddl	66.95	55.72
p28	MIT-p10.pddl	71.35	71.35
p29	MIT-p5.pddl	96.40	96.40
p30	MIT-p12.pddl	511.75	217.16



## 2.35 Parcprinter

### Tasks for optimal planning

name	config	baseline_time	sota_time
p01	ipc08-p21.pddl	0.43	0.42
p02	ipc08-p01.pddl	0.44	0.43
p03	ipc08-p03.pddl	0.46	0.45
p04	ipc08-p11.pddl	0.46	0.45
p05	ipc08-p12.pddl	0.59	0.49
p06	ipc08-p13.pddl	9.02	0.56
p07	ipc08-p04.pddl	64.87	0.49
p08	ipc08-p24.pddl	—	0.48
p09	ipc08-p26.pddl	—	0.53
p10	ipc08-p05.pddl	—	0.53
p11	ipc08-p06.pddl	—	0.54
p12	ipc08-p27.pddl	—	0.57
p13	ipc08-p14.pddl	—	0.60
p14	ipc08-p28.pddl	—	0.61
p15	ipc08-p07.pddl	—	0.63
p16	ipc08-p08.pddl	—	0.64
p17	ipc11sat-p17.pddl	—	0.64
p18	ipc11sat-p18.pddl	—	0.68
p19	ipc08-p09.pddl	—	0.69
p20	ipc08-p10.pddl	—	0.72
p21	ipc08-p29.pddl	—	0.72
p22	ipc11sat-p19.pddl	—	0.74
p23	ipc08-p16.pddl	—	0.76
p24	ipc08-p30.pddl	—	0.79
p25	ipc11sat-p12.pddl	—	0.84
p26	ipc11sat-p20.pddl	—	0.93
p27	ipc08-p18.pddl	—	0.96
p28	ipc11sat-p15.pddl	—	1.48
p29	ipc11sat-p14.pddl	—	1.81
p30	ipc11sat-p16.pddl	—	1.92

### Tasks for agile/satisficing planning

name	config	baseline_time	sota_time
p01	ipc08-p22.pddl	0.47	0.17
p02	ipc08-p21.pddl	0.45	0.19
p03	ipc08-p12.pddl	0.50	0.19
p04	ipc08-p03.pddl	0.45	0.20
p05	ipc08-p13.pddl	0.51	0.21
p06	ipc08-p05.pddl	2.00	0.22
p07	ipc08-p14.pddl	0.61	0.24
p08	ipc08-p27.pddl	1.06	0.35
p09	ipc08-p16.pddl	8.37	0.50
p10	ipc08-p15.pddl	7.86	1.06
p11	ipc08-p06.pddl	16.10	0.24
p12	ipc08-p30.pddl	36.56	0.90
p13	ipc08-p17.pddl	80.93	0.73
p14	ipc08-p18.pddl	408.94	1.57
p15	ipc11sat-p11.pddl	576.41	0.51
p16	ipc08-p07.pddl	967.62	0.29
p17	ipc08-p08.pddl	—	0.33
p18	ipc08-p09.pddl	—	0.42
p19	ipc08-p28.pddl	—	0.44
p20	ipc11sat-p18.pddl	—	0.71
p21	ipc11sat-p12.pddl	—	0.85
p22	ipc11sat-p19.pddl	—	3.36
p23	ipc11sat-p13.pddl	—	4.13
p24	ipc08-p20.pddl	—	5.59
p25	ipc08-p29.pddl	—	11.86
p26	ipc08-p19.pddl	—	12.44
p27	ipc11sat-p20.pddl	39.93	39.93
p28	ipc11sat-p15.pddl	—	36.14
p29	ipc11sat-p14.pddl	—	83.60
p30	ipc11sat-p16.pddl	—	—

## 2.36 Pathways

### Tasks for optimal planning

name	config	baseline_time	sota_time
p01	p-25-1-22-0.pddl	0.43	0.36
p02	p-7-6-13-0.pddl	0.41	0.41
p03	p-60-10-20-0.pddl	14.85	0.44
p04	p-7-11-19-0.pddl	14.95	0.46
p05	p-70-10-50-0.pddl	14.03	0.56
p06	p-40-10-50-0.pddl	15.30	0.53
p07	p-4-16-22-0.pddl	161.56	0.63
p08	p-4-16-16-0.pddl	183.41	0.59
p09	p-4-16-13-0.pddl	188.87	0.53
p10	p-19-16-22-0.pddl	—	2.03
p11	p-4-101-7-0.pddl	—	19.74
p12	p-4-101-19-0.pddl	—	36.48
p13	p-4-101-10-0.pddl	—	44.49
p14	p-4-101-22-0.pddl	—	60.25
p15	p-7-101-13-0.pddl	—	6193.28
p16	p-10-101-13-0.pddl	—	8363.39
p17	p-7-21-16-0.pddl	—	9433.05
p18	p-10-101-19-0.pddl	—	11034.40
p19	p-7-21-10-0.pddl	—	2644.03
p20	p-7-101-10-0.pddl	—	2663.95
p21	p-7-101-16-0.pddl	—	7283.04
p22	p-7-21-19-0.pddl	—	10474.90
p23	p-7-21-22-0.pddl	—	11247.90
p24	p-10-101-10-0.pddl	—	3767.26
p25	p-7-101-19-0.pddl	—	7225.30
p26	p-7-21-13-0.pddl	—	7839.48
p27	p-7-101-22-0.pddl	—	8749.92
p28	p-10-101-16-0.pddl	—	9713.23
p29	p-10-60-50-0.pddl	—	—
p30	p-50-110-50-0.pddl	—	—

### Tasks for agile/satisficing planning

Warning: no instances selected

## 2.37 Pegsol

### Tasks for optimal planning

name	config	baseline_time	sota_time
p01	generator-repo-p002.pddl	0.43	0.42
p02	generator-repo-p024.pddl	0.45	0.43
p03	generator-repo-p033.pddl	0.44	0.43
p04	generator-repo-p007.pddl	0.44	0.44
p05	generator-repo-p003.pddl	0.44	0.44
p06	generator-repo-p004.pddl	0.45	0.44
p07	generator-repo-p011.pddl	0.45	0.44
p08	generator-repo-p046.pddl	0.44	0.44
p09	generator-repo-p014.pddl	0.45	0.45
p10	generator-repo-p010.pddl	0.45	0.45
p11	generator-repo-p068.pddl	0.45	0.45
p12	generator-repo-p042.pddl	0.45	0.45
p13	generator-repo-p061.pddl	0.46	0.45
p14	generator-repo-p018.pddl	0.46	0.46
p15	generator-repo-p001.pddl	0.46	0.46
p16	generator-repo-p013.pddl	0.46	0.46
p17	generator-repo-p005.pddl	0.46	0.46
p18	generator-repo-p066.pddl	0.47	0.47
p19	generator-repo-p039.pddl	0.48	0.48
p20	generator-repo-p070.pddl	0.48	0.48
p21	generator-repo-p067.pddl	0.49	0.49
p22	generator-repo-p062.pddl	0.55	0.55
p23	generator-repo-p080.pddl	2.00	2.00
p24	generator-repo-p071.pddl	3.93	2.15
p25	generator-repo-p031.pddl	5.11	2.48
p26	generator-repo-p084.pddl	16.90	2.18
p27	generator-repo-p104.pddl	22.21	3.53
p28	generator-repo-p099.pddl	—	13.19
p29	generator-repo-p074.pddl	—	23.32
p30	generator-repo-p105.pddl	—	502.73

### Tasks for agile/satisficing planning

name	config	baseline_time	sota_time
p01	generator-repo-p033.pddl	0.44	0.44
p02	generator-repo-p061.pddl	0.44	0.44
p03	generator-repo-p036.pddl	0.45	0.45
p04	generator-repo-p054.pddl	0.45	0.45
p05	generator-repo-p102.pddl	0.45	0.45
p06	generator-repo-p067.pddl	0.46	0.46
p07	generator-repo-p021.pddl	0.46	0.46
p08	generator-repo-p007.pddl	0.46	0.46
p09	generator-repo-p032.pddl	0.46	0.46
p10	generator-repo-p104.pddl	0.47	0.47
p11	generator-repo-p024.pddl	0.47	0.47
p12	generator-repo-p014.pddl	0.47	0.47
p13	generator-repo-p026.pddl	0.47	0.47
p14	generator-repo-p101.pddl	0.47	0.47
p15	generator-repo-p013.pddl	0.48	0.48
p16	generator-repo-p001.pddl	0.48	0.48
p17	generator-repo-p073.pddl	0.48	0.48
p18	generator-repo-p082.pddl	0.48	0.48
p19	generator-repo-p037.pddl	0.49	0.49
p20	generator-repo-p084.pddl	0.49	0.49
p21	generator-repo-p065.pddl	0.49	0.49
p22	generator-repo-p078.pddl	0.49	0.49
p23	generator-repo-p066.pddl	0.49	0.49
p24	generator-repo-p093.pddl	0.49	0.49
p25	generator-repo-p064.pddl	0.49	0.49
p26	generator-repo-p052.pddl	0.50	0.50
p27	generator-repo-p080.pddl	0.50	0.50
p28	generator-repo-p070.pddl	0.50	0.50
p29	generator-repo-p099.pddl	10.98	10.98
p30	generator-repo-p105.pddl	43.45	43.45

## 2.38 Pipesworld-notankage

### Tasks for optimal planning

name	config	baseline_time	sota_time
p01	p01-net1-b6-g2.pddl	0.45	0.45
p02	p02-net1-b6-g4.pddl	0.49	0.48
p03	p03-net1-b8-g3.pddl	0.51	0.51
p04	p04-net1-b8-g5.pddl	0.58	0.51
p05	p05-net1-b10-g4.pddl	0.62	0.53
p06	p06-net1-b10-g6.pddl	0.90	0.55
p07	p07-net1-b12-g5.pddl	0.72	0.59
p08	p08-net1-b12-g7.pddl	1.66	0.59
p09	p09-net1-b14-g6.pddl	43.48	0.73
p10	p10-net1-b14-g8.pddl	406.84	1.91
p11	p11-net2-b10-g2.pddl	4.38	1.16
p12	p12-net2-b10-g4.pddl	13.05	1.67
p13	p13-net2-b12-g3.pddl	4.04	1.10
p14	p14-net2-b12-g5.pddl	—	38.24
p15	p15-net2-b14-g4.pddl	40.01	5.23
p16	p16-net2-b14-g6.pddl	—	149.49
p17	p17-net2-b16-g5.pddl	—	160.22
p18	p18-net2-b16-g7.pddl	—	800.05
p19	p19-net2-b18-g6.pddl	—	192.63
p20	p20-net2-b18-g8.pddl	—	261.24
p21	p22-net3-b12-g4.pddl	—	48.55
p22	p23-net3-b14-g3.pddl	191.48	15.63
p23	p24-net3-b14-g5.pddl	—	315.45
p24	p25-net3-b16-g5.pddl	—	—
p25	p26-net3-b16-g7.pddl	—	—
p26	p31-net4-b14-g3.pddl	—	394.67
p27	p32-net4-b14-g5.pddl	—	—
p28	p33-net4-b16-g5.pddl	—	—
p29	p34-net4-b16-g6.pddl	—	—
p30	p35-net4-b18-g4.pddl	—	—

### Tasks for agile/satisficing planning

name	config	baseline_time	sota_time
p01	p21-net3-b12-g2.pddl	199.30	0.24
p02	p22-net3-b12-g4.pddl	3427.84	0.44
p03	p23-net3-b14-g3.pddl	1.08	0.43
p04	p24-net3-b14-g5.pddl	1.77	0.60
p05	p25-net3-b16-g5.pddl	—	0.90
p06	p26-net3-b16-g7.pddl	1213.13	0.83
p07	p27-net3-b18-g6.pddl	46.90	0.94
p08	p28-net3-b18-g7.pddl	8.10	0.93
p09	p29-net3-b20-g6.pddl	—	1.23
p10	p30-net3-b20-g8.pddl	507.47	1.20
p11	p31-net4-b14-g3.pddl	508.20	0.43
p12	p32-net4-b14-g5.pddl	2.10	0.75
p13	p33-net4-b16-g5.pddl	—	0.90
p14	p34-net4-b16-g6.pddl	77.38	0.86
p15	p35-net4-b18-g4.pddl	—	1.11
p16	p36-net4-b18-g6.pddl	—	1.16
p17	p37-net4-b20-g5.pddl	—	1.12
p18	p38-net4-b20-g7.pddl	—	1.03
p19	p39-net4-b22-g7.pddl	—	1.38
p20	p40-net4-b22-g8.pddl	—	1.63
p21	p41-net5-b22-g2.pddl	7.12	1.26
p22	p42-net5-b22-g4.pddl	—	44.00
p23	p43-net5-b24-g3.pddl	—	—
p24	p44-net5-b24-g5.pddl	—	15.84
p25	p45-net5-b26-g4.pddl	—	7.98
p26	p46-net5-b26-g6.pddl	—	3.67
p27	p47-net5-b28-g5.pddl	—	18.76
p28	p48-net5-b28-g7.pddl	—	9.57
p29	p49-net5-b30-g6.pddl	—	4.49
p30	p50-net5-b30-g8.pddl	—	6.14

## 2.39 Pipesworld-tankage

### Tasks for optimal planning

name	config	baseline_time	sota_time
p01	p01-net1-b6-g2-t50.pddl	0.50	0.50
p02	p02-net1-b6-g4-t50.pddl	0.51	0.49
p03	p03-net1-b8-g3-t80.pddl	1.07	0.74
p04	p04-net1-b8-g5-t80.pddl	2.50	1.06
p05	p05-net1-b10-g4-t50.pddl	0.94	0.74
p06	p06-net1-b10-g6-t50.pddl	1.46	0.75
p07	p07-net1-b12-g5-t80.pddl	83.26	1.49
p08	p08-net1-b12-g7-t80.pddl	–	5.78
p09	p09-net1-b14-g6-t50.pddl	–	19.84
p10	p10-net1-b14-g8-t50.pddl	–	26.00
p11	p11-net2-b10-g2-t30.pddl	20.06	5.45
p12	p12-net2-b10-g4-t60.pddl	–	26.32
p13	p13-net2-b12-g3-t70.pddl	–	30.99
p14	p14-net2-b12-g5-t30.pddl	–	351.76
p15	p15-net2-b14-g4-t30.pddl	143.24	37.59
p16	p16-net2-b14-g6-t80.pddl	–	–
p17	p17-net2-b16-g5-t20.pddl	207.89	67.27
p18	p18-net2-b16-g7-t60.pddl	–	–
p19	p19-net2-b18-g6-t60.pddl	–	936.03
p20	p21-net3-b12-g2-t60.pddl	46.38	21.19
p21	p22-net3-b12-g4-t60.pddl	–	425.57
p22	p23-net3-b14-g3-t60.pddl	–	1598.98
p23	p24-net3-b14-g5-t60.pddl	–	–
p24	p25-net3-b16-g5-t60.pddl	–	–
p25	p26-net3-b16-g7-t70.pddl	–	–
p26	p41-net5-b22-g2-t20.pddl	–	223.77
p27	p42-net5-b22-g4-t50.pddl	–	–
p28	p43-net5-b24-g3-t80.pddl	–	–
p29	p45-net5-b26-g4-t50.pddl	–	–
p30	p46-net5-b26-g6-t50.pddl	–	–

### Tasks for agile/satisficing planning

name	config	baseline_time	sota_time
p01	p11-net2-b10-g2-t30.pddl	64.42	0.67
p02	p12-net2-b10-g4-t60.pddl	8.09	1.01
p03	p13-net2-b12-g3-t70.pddl	1.86	1.04
p04	p14-net2-b12-g5-t30.pddl	13.06	0.92
p05	p15-net2-b14-g4-t30.pddl	37.95	1.41
p06	p16-net2-b14-g6-t80.pddl	320.32	2.88
p07	p17-net2-b16-g5-t20.pddl	22.28	2.42
p08	p18-net2-b16-g7-t60.pddl	30.93	3.20
p09	p19-net2-b18-g6-t60.pddl	–	2.90
p10	p20-net2-b18-g8-t90.pddl	–	6.56
p11	p21-net3-b12-g2-t60.pddl	4401.91	0.70
p12	p22-net3-b12-g4-t60.pddl	–	1.32
p13	p23-net3-b14-g3-t60.pddl	–	4.83
p14	p24-net3-b14-g5-t60.pddl	2811.17	3.91
p15	p25-net3-b16-g5-t60.pddl	–	5.71
p16	p26-net3-b16-g7-t70.pddl	–	10.35
p17	p27-net3-b18-g6-t70.pddl	–	6.38
p18	p28-net3-b18-g7-t70.pddl	–	19.14
p19	p29-net3-b20-g6-t70.pddl	–	10.61
p20	p30-net3-b20-g8-t70.pddl	–	15.85
p21	p31-net4-b14-g3-t20.pddl	43.41	3.64
p22	p32-net4-b14-g5-t30.pddl	191.23	3.73
p23	p33-net4-b16-g5-t60.pddl	723.05	4.09
p24	p34-net4-b16-g6-t60.pddl	209.85	5.84
p25	p35-net4-b18-g4-t90.pddl	–	13.64
p26	p36-net4-b18-g6-t90.pddl	–	31.11
p27	p37-net4-b20-g5-t60.pddl	–	9.41
p28	p38-net4-b20-g7-t60.pddl	–	12.71
p29	p39-net4-b22-g7-t50.pddl	–	13.81
p30	p40-net4-b22-g8-t50.pddl	–	12.67

## 2.40 Sokoban

### Tasks for optimal planning

name	config	baseline_time	sota_time
p01	generator-repo-p070-microban-sequential.pddl	22.78	1.03
p02	generator-repo-p036-microban-sequential.pddl	15.48	2.85
p03	generator-repo-p151-microban-sequential.pddl	111.86	4.10
p04	generator-repo-p054-microban-sequential.pddl	129.49	1.12
p05	generator-repo-p115-microban-sequential.pddl	147.62	2.56
p06	generator-repo-p012-hexoban-sequential.pddl	200.02	1.25
p07	generator-repo-p108-microban-sequential.pddl	451.53	10.75
p08	generator-repo-p013-hexoban-sequential.pddl	–	18.61
p09	generator-repo-p017-multiban-sequential.pddl	–	32.36
p10	generator-repo-p006-hexoban-sequential.pddl	–	60.29
p11	generator-repo-p122-microban-sequential.pddl	–	100.30
p12	generator-repo-p111-microban-sequential.pddl	–	235.18
p13	generator-repo-p014-hexoban-sequential.pddl	–	236.09
p14	generator-repo-p003-multiban-sequential.pddl	–	293.56
p15	generator-repo-p007-multiban-sequential.pddl	–	2020.93
p16	generator-repo-p139-microban-sequential.pddl	–	2223.45
p17	generator-repo-p018-multiban-sequential.pddl	–	–
p18	generator-repo-p016-hexoban-sequential.pddl	–	–
p19	ipc1lsat-p15.pddl	359.99	10.96
p20	ipc1lsat-p10.pddl	489.63	9.76
p21	ipc1lsat-p19.pddl	–	7.61
p22	ipc1lsat-p20.pddl	–	8.12
p23	ipc1lsat-p03.pddl	–	12.06
p24	ipc1lsat-p16.pddl	–	12.14
p25	ipc1lsat-p18.pddl	–	13.90
p26	ipc1lsat-p08.pddl	–	16.69
p27	ipc1lsat-p17.pddl	–	40.09
p28	ipc1lsat-p13.pddl	–	44.17
p29	ipc1lsat-p12.pddl	–	44.79
p30	ipc1lsat-p11.pddl	–	158.04

### Tasks for agile/satisficing planning

name	config	baseline_time	sota_time
p01	generator-repo-p003-hexoban-sequential.pddl	0.49	0.17
p02	generator-repo-p028-microban-sequential.pddl	0.47	0.21
p03	generator-repo-p005-microban-sequential.pddl	0.58	0.26
p04	generator-repo-p075-microban-sequential.pddl	0.56	0.40
p05	generator-repo-p104-microban-sequential.pddl	0.54	0.45
p06	generator-repo-p061-microban-sequential.pddl	0.55	0.47
p07	generator-repo-p054-microban-sequential.pddl	0.61	0.61
p08	generator-repo-p072-microban-sequential.pddl	0.64	0.62
p09	generator-repo-p132-microban-sequential.pddl	1.39	0.70
p10	generator-repo-p059-microban-sequential.pddl	0.92	0.86
p11	generator-repo-p014-hexoban-sequential.pddl	14.67	1.34
p12	generator-repo-p011-hexoban-sequential.pddl	16.65	0.29
p13	generator-repo-p012-multiban-sequential.pddl	140.79	2.83
p14	generator-repo-p020-hexoban-sequential.pddl	293.23	4.43
p15	generator-repo-p022-hexoban-sequential.pddl	–	2.39
p16	generator-repo-p017-multiban-sequential.pddl	–	3.81
p17	generator-repo-p016-multiban-sequential.pddl	–	4.38
p18	generator-repo-p138-microban-sequential.pddl	37.63	6.12
p19	generator-repo-p143-microban-sequential.pddl	45.95	12.08
p20	generator-repo-p108-microban-sequential.pddl	102.67	6.39
p21	generator-repo-p019-multiban-sequential.pddl	261.06	21.54
p22	generator-repo-p111-microban-sequential.pddl	161.27	30.33
p23	generator-repo-p098-microban-sequential.pddl	189.27	48.20
p24	generator-repo-p122-microban-sequential.pddl	–	64.96
p25	generator-repo-p011-multiban-sequential.pddl	12174.00	91.56
p26	generator-repo-p010-multiban-sequential.pddl	–	109.16
p27	generator-repo-p144-microban-sequential.pddl	–	116.61
p28	generator-repo-p015-hexoban-sequential.pddl	–	507.90
p29	generator-repo-p003-multiban-sequential.pddl	–	–
p30	generator-repo-p007-multiban-sequential.pddl	–	–

## 2.41 Tetris

### Tasks for optimal planning

name	config	baseline_time	sota_time
p01	p-3-4-0.pddl	2.89	2.71
p02	p-2-6-4.pddl	0.71	0.68
p03	p-3-8-2.pddl	3.56	3.34
p04	p-3-10-4.pddl	8.81	8.81
p05	p-3-12-1.pddl	10.74	10.74
p06	p-3-14-1408893053.pddl	—	155.31
p07	p-3-16-0.pddl	—	1245.74
p08	p-4-16-2.pddl	—	—
p09	p-4-20-0.pddl	—	—
p10	p-1-4-852697554.pddl	3.89	0.71
p11	p-2-6-1887800994.pddl	123.79	9.82
p12	p-2-10-4.pddl	116.56	8.75
p13	p-2-12-3.pddl	305.33	35.12
p14	p-2-16-2.pddl	1.41	1.41
p15	p-2-20-1.pddl	—	—
p16	p-3-22-1.pddl	33.81	33.81
p17	p-3-24-2.pddl	12.07	11.79
p18	p-3-26-0.pddl	—	—
p19	p-3-28-4.pddl	—	362.00
p20	p-2-16-1.pddl	—	264.56
p21	p-3-18-852697554.pddl	20.56	20.56
p22	p-3-20-497458984.pddl	—	345.21
p23	p-3-24-1.pddl	39.18	39.18
p24	p-3-26-3.pddl	—	253.24
p25	p-3-30-1687847778.pddl	—	—
p26	p-3-34-2.pddl	35.05	35.05
p27	p-3-38-1.pddl	—	2848.05
p28	p-3-40-2.pddl	42.23	42.23
p29	p-3-46-4.pddl	—	—
p30	p-3-48-1.pddl	—	—

### Tasks for agile/satisficing planning

name	config	baseline_time	sota_time
p01	p-1-4-4.pddl	0.57	0.43
p02	p-2-6-536572609.pddl	0.62	0.18
p03	p-2-10-2.pddl	0.75	0.57
p04	p-2-12-4.pddl	876.84	0.86
p05	p-2-14-4.pddl	2337.45	1.03
p06	p-2-18-3.pddl	—	6.63
p07	p-2-22-1011574091.pddl	—	362.79
p08	p-2-24-0.pddl	—	171.24
p09	p-2-26-4.pddl	—	28.80
p10	p-2-28-3.pddl	—	42.00
p11	p-3-30-4.pddl	814.90	72.59
p12	p-3-32-1.pddl	7817.13	104.55
p13	p-3-34-4.pddl	—	480.67
p14	p-3-40-3.pddl	—	2599.10
p15	p-3-44-4.pddl	—	1348.19
p16	p-3-48-1.pddl	—	297.74
p17	p-3-50-4.pddl	—	10547.30
p18	p-2-12-0.pddl	—	2.28
p19	p-2-16-3.pddl	—	3.37
p20	p-2-20-1426684740.pddl	—	173.16
p21	p-2-22-1026270344.pddl	—	279.63
p22	p-2-26-1.pddl	—	4.73
p23	p-3-28-1806855369.pddl	—	546.57
p24	p-3-30-1687847778.pddl	17959.70	346.68
p25	p-3-32-2.pddl	26.80	26.80
p26	p-3-34-2.pddl	32.53	28.41
p27	p-3-38-1.pddl	9774.10	200.40
p28	p-3-44-3.pddl	—	1053.00
p29	p-3-48-2.pddl	55.76	50.91
p30	p-3-50-3.pddl	—	11167.80

## 2.42 Thoughtful

### Tasks for optimal planning

name	config	baseline_time	sota_time
p01	bootstrap-typed-02.pddl	12.91	0.97
p02	bootstrap-typed-03.pddl	33.60	0.93
p03	bootstrap-typed-04.pddl	30.61	1.23
p04	bootstrap-typed-05.pddl	30.11	1.40
p05	bootstrap-typed-01.pddl	54.60	1.46
p06	target-typed-06.pddl	—	997.70
p07	target-typed-08.pddl	—	1245.68
p08	target-typed-04.pddl	—	—
p09	target-typed-05.pddl	—	—
p10	target-typed-03.pddl	—	—
p11	target-typed-10.pddl	—	—
p12	target-typed-29.pddl	—	—
p13	target-typed-07.pddl	—	—
p14	thoughtful_11.6_80-typed.pddl	—	1084.82
p15	thoughtful_13.7_75-typed.pddl	—	2443.71
p16	thoughtful_11.6_75-typed.pddl	—	3116.33
p17	thoughtful_11.6_89-typed.pddl	—	4143.86
p18	thoughtful_11.6_74-typed.pddl	—	—
p19	thoughtful_11.6_65-typed.pddl	—	—
p20	thoughtful_11.6_88-typed.pddl	—	—
p21	thoughtful_13.7_56-typed.pddl	—	—
p22	thoughtful_13.7_55-typed.pddl	—	—
p23	thoughtful_13.7_58-typed.pddl	—	—
p24	thoughtful_13.7_77-typed.pddl	—	—
p25	thoughtful_13.7_74-typed.pddl	—	—
p26	thoughtful_13.7_72-typed.pddl	—	—
p27	thoughtful_13.7_69-typed.pddl	—	—
p28	thoughtful_11.6_78-typed.pddl	—	—
p29	thoughtful_11.6_99-typed.pddl	—	—
p30	thoughtful_13.7_52-typed.pddl	—	—

### Tasks for agile/satisficing planning

name	config	baseline_time	sota_time
p01	thoughtful_11.6_74-typed.pddl	3.96	3.96
p02	thoughtful_11.6_65-typed.pddl	4.20	4.20
p03	thoughtful_11.6_75-typed.pddl	4.42	4.42
p04	thoughtful_11.6_88-typed.pddl	4.49	4.49
p05	thoughtful_13.7_56-typed.pddl	4.65	4.65
p06	thoughtful_13.7_55-typed.pddl	4.89	4.89
p07	thoughtful_13.7_58-typed.pddl	6.22	5.34
p08	thoughtful_13.7_77-typed.pddl	6.20	6.20
p09	thoughtful_13.7_74-typed.pddl	6.29	6.29
p10	thoughtful_13.7_72-typed.pddl	7.84	7.84
p11	thoughtful_13.7_69-typed.pddl	888.86	8.03
p12	thoughtful_11.6_78-typed.pddl	—	5.01
p13	thoughtful_11.6_99-typed.pddl	—	5.32
p14	thoughtful_13.7_75-typed.pddl	—	5.56
p15	thoughtful_13.7_52-typed.pddl	—	5.56
p16	thoughtful_13.7_61-typed.pddl	—	6.20
p17	thoughtful_11.6_89-typed.pddl	—	7.29
p18	thoughtful_13.7_64-typed.pddl	—	7.66
p19	thoughtful_11.6_82-typed.pddl	—	12.59
p20	thoughtful_11.6_98-typed.pddl	—	14.57
p21	thoughtful_11.6_80-typed.pddl	—	16.84
p22	thoughtful_13.7_68-typed.pddl	—	22.64
p23	thoughtful_13.7_62-typed.pddl	—	23.07
p24	thoughtful_13.7_51-typed.pddl	—	—
p25	p11.6_59-typed.pddl	4.40	4.40
p26	p13.7_79-typed.pddl	—	6.38
p27	p13.7_86-typed.pddl	—	7.43
p28	p11.6_62-typed.pddl	—	18.13
p29	p11.6_53-typed.pddl	—	25.41
p30	p13.7_78-typed.pddl	—	43.21



## 2.43 Tidybot

### Tasks for optimal planning

name	config	baseline_time	sota_time
p01	ipc11opt-p10.pddl	57.04	8.67
p02	ipc14opt-p13.pddl	118.69	13.75
p03	p-2-4-1-1-0-10-1.pddl	18.33	18.33
p04	p-3-4-5-1-8-9-1.pddl	29.01	17.97
p05	p-2-4-1-1-8-11-0.pddl	40.45	31.66
p06	p-2-4-1-1-2-10-1.pddl	100.95	28.64
p07	p-1-4-3-1-4-9-0.pddl	210.93	26.02
p08	ipc14opt-p07.pddl	—	74.61
p09	p-1-4-1-1-4-13-1.pddl	149.97	90.87
p10	p-2-4-5-1-8-10-0.pddl	—	98.32
p11	p-3-4-1-1-10-9-1.pddl	—	224.44
p12	p-1-4-1-1-10-11-0.pddl	—	316.88
p13	p-1-4-1-1-10-10-1.pddl	—	429.36
p14	p-2-4-1-1-6-9-0.pddl	—	697.81
p15	p-1-4-3-1-4-10-1.pddl	—	1958.62
p16	p-2-4-5-1-10-10-1.pddl	—	2515.45
p17	p-3-4-1-1-2-9-0.pddl	—	2518.34
p18	ipc14opt-p10.pddl	—	4065.08
p19	p-3-4-3-1-4-12-0.pddl	—	—
p20	p-1-4-3-3-4-12-0.pddl	—	—
p21	p-1-4-3-3-10-15-0.pddl	—	—
p22	p-1-4-3-1-6-9-0.pddl	—	1680.79
p23	p-1-4-3-1-4-13-0.pddl	—	1837.95
p24	p-1-4-5-1-8-9-1.pddl	—	2873.76
p25	p-3-4-3-1-4-10-0.pddl	—	3262.51
p26	p-3-5-3-1-2-11-0.pddl	—	9909.02
p27	p-1-4-5-1-2-12-0.pddl	—	—
p28	p-2-5-3-1-8-11-1.pddl	—	—
p29	p-2-4-5-3-6-13-1.pddl	—	—
p30	p-1-4-3-3-10-15-1.pddl	—	—

### Tasks for agile/satisficing planning

name	config	baseline_time	sota_time
p01	p-2-4-1-1-0-6-1.pddl	3.73	0.59
p02	ipc11opt-p07.pddl	5.60	1.34
p03	p-3-4-5-1-10-9-1.pddl	16.62	10.09
p04	p-3-4-5-1-10-9-0.pddl	22.30	12.86
p05	p-3-4-3-1-6-9-1.pddl	—	8.59
p06	p-2-4-5-1-6-10-0.pddl	—	13.38
p07	p-2-4-3-1-6-10-1.pddl	48.74	16.22
p08	p-3-4-3-1-6-9-0.pddl	174.30	15.84
p09	p-1-4-5-1-4-11-0.pddl	—	22.42
p10	p-2-4-3-1-6-10-0.pddl	54.16	25.38
p11	p-1-5-1-1-10-10-1.pddl	92.59	35.96
p12	p-2-4-1-1-8-12-0.pddl	60.70	47.99
p13	p-3-5-3-1-10-10-1.pddl	—	47.92
p14	p-2-5-1-1-4-13-0.pddl	116.95	58.42
p15	p-1-4-5-3-4-14-0.pddl	222.21	76.73
p16	p-2-5-3-1-10-12-0.pddl	1186.11	93.54
p17	p-3-5-5-1-6-11-0.pddl	—	85.47
p18	p-3-5-1-1-4-11-1.pddl	—	85.59
p19	p-1-4-3-3-2-15-1.pddl	—	116.17
p20	p-2-4-5-3-10-15-0.pddl	—	116.91
p21	p-3-4-3-1-8-15-0.pddl	—	227.15
p22	p-2-4-5-1-4-14-1.pddl	5197.87	247.32
p23	p-3-5-5-1-4-14-0.pddl	—	280.96
p24	p-3-5-5-3-8-13-1.pddl	—	788.76
p25	p-1-5-1-1-10-15-0.pddl	—	1089.11
p26	p-2-5-3-3-6-15-0.pddl	—	2809.41
p27	p-3-4-3-1-6-15-1.pddl	—	3920.47
p28	p-1-5-3-3-2-15-0.pddl	—	11162.60
p29	p-2-5-3-3-8-15-1.pddl	—	12378.70
p30	p-3-5-1-1-8-14-1.pddl	—	15947.50

## References

- [1] Álvaro Torralba, Jendrik Seipp, Silvan Sievers. 2021. Automatic Instance Generation for Classical Planning. In *Proceedings of the Thirty-First International Conference on Automated Planning and Scheduling (ICAPS 2021)*, pages 376–384.