

Plan Validation Report

VAL

April 29, 2017

1 Domain and Problem

Domain: rovers

Problem: rovers_prob

2 Plan: solution

2.1 Plan

Plan size: 20

Time	Action
0:	(move r p_02.02 p_02.03) [1]
1.001:	(move r p_02.03 p_02.04) [1]
2.002:	(move r p_02.04 p_02.05) [1]
3.003:	(move r p_02.05 p_02.06) [1]
4.004:	(move r p_02.06 p_02.07) [1]
5.005:	(move r p_02.07 p_03.07) [1]
6.006:	(move r p_03.07 p_04.07) [1]
7.007:	(move r p_04.07 p_05.07) [1]
8.008:	(move r p_05.07 p_06.07) [1]
9.009:	(move r p_06.07 p_07.07) [1]
10.01:	(move r p_07.07 p_08.07) [1]
11.011:	(move r p_08.07 p_09.07) [1]
12.012:	(move r p_09.07 p_10.07) [1]
13.013:	(move r p_10.07 p_11.07) [1]
14.014:	(move r p_11.07 p_12.07) [1]
15.015:	(move r p_12.07 p_13.07) [1]
16.016:	(move r p_13.07 p_14.07) [1]

17.017: (move r p_14.07 p_14.08) [1]
 18.018: (move r p_14.08 p_14.09) [1]
 19.019: (move r p_14.09 p_14.10) [1]

2.2 Plan To Validate

Time	Happening
0:	(move r p_02.02 p_02.03) - <i>start</i>
1:	(move r p_02.02 p_02.03) - <i>end</i>
1.001:	(move r p_02.03 p_02.04) - <i>start</i>
2.001:	(move r p_02.03 p_02.04) - <i>end</i>
2.002:	(move r p_02.04 p_02.05) - <i>start</i>
3.002:	(move r p_02.04 p_02.05) - <i>end</i>
3.003:	(move r p_02.05 p_02.06) - <i>start</i>
4.003:	(move r p_02.05 p_02.06) - <i>end</i>
4.004:	(move r p_02.06 p_02.07) - <i>start</i>
5.004:	(move r p_02.06 p_02.07) - <i>end</i>
5.005:	(move r p_02.07 p_03.07) - <i>start</i>
6.005:	(move r p_02.07 p_03.07) - <i>end</i>
6.006:	(move r p_03.07 p_04.07) - <i>start</i>
7.006:	(move r p_03.07 p_04.07) - <i>end</i>
7.007:	(move r p_04.07 p_05.07) - <i>start</i>
8.007:	(move r p_04.07 p_05.07) - <i>end</i>

8.008: (move r p_05.07 p_06.07) - *start*
9.008: (move r p_05.07 p_06.07) - *end*
9.009: (move r p_06.07 p_07.07) - *start*
10.009: (move r p_06.07 p_07.07) - *end*
10.01: (move r p_07.07 p_08.07) - *start*
11.01: (move r p_07.07 p_08.07) - *end*
11.011: (move r p_08.07 p_09.07) - *start*
12.011: (move r p_08.07 p_09.07) - *end*
12.012: (move r p_09.07 p_10.07) - *start*
13.012: (move r p_09.07 p_10.07) - *end*
13.013: (move r p_10.07 p_11.07) - *start*
14.013: (move r p_10.07 p_11.07) - *end*
14.014: (move r p_11.07 p_12.07) - *start*
15.014: (move r p_11.07 p_12.07) - *end*
15.015: (move r p_12.07 p_13.07) - *start*
16.015: (move r p_12.07 p_13.07) - *end*
16.016: (move r p_13.07 p_14.07) - *start*
17.016: (move r p_13.07 p_14.07) - *end*
17.017: (move r p_14.07 p_14.08) - *start*
18.017: (move r p_14.07 p_14.08) - *end*
18.018: (move r p_14.08 p_14.09) - *start*

19.018: (move r p_14.08 p_14.09) - *end*

19.019: (move r p_14.09 p_14.10) - *start*

20.019: (move r p_14.09 p_14.10) - *end*

2.3 Plan Validation

Time	Details
0:	Checking Happening... ...OK! Deleting (idle r) Deleting (at r p_02_02)
1:	Checking Happening... ...OK! Adding (idle r) Adding (at r p_02_03)
1.001:	Checking Happening... ...OK! Deleting (idle r) Deleting (at r p_02_03)
2.001:	Checking Happening... ...OK! Adding (idle r) Adding (at r p_02_04)
2.002:	Checking Happening... ...OK! Deleting (idle r) Deleting (at r p_02_04)
3.002:	Checking Happening... ...OK! Adding (idle r) Adding (at r p_02_05)
3.003:	Checking Happening... ...OK! Deleting (idle r) Deleting (at r p_02_05)

- 4.003:** Checking Happening... ...OK!
 Adding (idle r)
 Adding (at r p_02_06)
- 4.004:** Checking Happening... ...OK!
 Deleting (idle r)
 Deleting (at r p_02_06)
- 5.004:** Checking Happening... ...OK!
 Adding (idle r)
 Adding (at r p_02_07)
- 5.005:** Checking Happening... ...OK!
 Deleting (idle r)
 Deleting (at r p_02_07)
- 6.005:** Checking Happening... ...OK!
 Adding (idle r)
 Adding (at r p_03_07)
- 6.006:** Checking Happening... ...OK!
 Deleting (idle r)
 Deleting (at r p_03_07)
- 7.006:** Checking Happening... ...OK!
 Adding (idle r)
 Adding (at r p_04_07)
- 7.007:** Checking Happening... ...OK!
 Deleting (idle r)
 Deleting (at r p_04_07)
- 8.007:** Checking Happening... ...OK!
 Adding (idle r)
 Adding (at r p_05_07)
- 8.008:** Checking Happening... ...OK!
 Deleting (idle r)
 Deleting (at r p_05_07)
- 9.008:** Checking Happening... ...OK!

Adding (idle r)
Adding (at r p_06_07)

9.009: Checking Happening... ...OK!
Deleting (idle r)
Deleting (at r p_06_07)

10.009: Checking Happening... ...OK!
Adding (idle r)
Adding (at r p_07_07)

10.01: Checking Happening... ...OK!
Deleting (idle r)
Deleting (at r p_07_07)

11.01: Checking Happening... ...OK!
Adding (idle r)
Adding (at r p_08_07)

11.011: Checking Happening... ...OK!
Deleting (idle r)
Deleting (at r p_08_07)

12.011: Checking Happening... ...OK!
Adding (idle r)
Adding (at r p_09_07)

12.012: Checking Happening... ...OK!
Deleting (idle r)
Deleting (at r p_09_07)

13.012: Checking Happening... ...OK!
Adding (idle r)
Adding (at r p_10_07)

13.013: Checking Happening... ...OK!
Deleting (idle r)
Deleting (at r p_10_07)

14.013: Checking Happening... ...OK!
Adding (idle r)

- Adding (at r p_11_07)
- 14.014:** Checking Happening... ...OK!
Deleting (idle r)
Deleting (at r p_11_07)
- 15.014:** Checking Happening... ...OK!
Adding (idle r)
Adding (at r p_12_07)
- 15.015:** Checking Happening... ...OK!
Deleting (idle r)
Deleting (at r p_12_07)
- 16.015:** Checking Happening... ...OK!
Adding (idle r)
Adding (at r p_13_07)
- 16.016:** Checking Happening... ...OK!
Deleting (idle r)
Deleting (at r p_13_07)
- 17.016:** Checking Happening... ...OK!
Adding (idle r)
Adding (at r p_14_07)
- 17.017:** Checking Happening... ...OK!
Deleting (idle r)
Deleting (at r p_14_07)
- 18.017:** Checking Happening... ...OK!
Adding (idle r)
Adding (at r p_14_08)
- 18.018:** Checking Happening... ...OK!
Deleting (idle r)
Deleting (at r p_14_08)
- 19.018:** Checking Happening... ...OK!
Adding (idle r)
Adding (at r p_14_09)

19.019: Checking Happening... ...OK!
Deleting (idle r)
Deleting (at r p_14_09)

20.019: Checking Happening... ...OK!
Adding (idle r)
Adding (at r p_14_10)

Plan executed successfully - checking goal

(empty p_02_04) (next p_02_03 p_02_04) (empty p_02_05) (next p_02_04 p_02_05)
(empty p_02_06) (next p_02_05 p_02_06) (empty p_02_07) (next p_02_06 p_02_07)
(empty p_03_07) (next p_02_07 p_03_07) (empty p_04_07) (next p_03_07 p_04_07)
(empty p_02_03) (idle r) (next p_02_02 p_02_03) (empty p_01_01) (empty
p_05_07) (next p_04_07 p_05_07) (empty p_06_07) (next p_05_07 p_06_07)
(empty p_07_07) (next p_06_07 p_07_07) (empty p_08_07) (next p_07_07 p_08_07)
(empty p_01_02) (empty p_01_03) (empty p_09_07) (next p_08_07 p_09_07)
(empty p_10_07) (next p_09_07 p_10_07) (empty p_11_07) (next p_10_07 p_11_07)
(empty p_12_07) (next p_11_07 p_12_07) (empty p_13_07) (next p_12_07 p_13_07)
(empty p_14_07) (next p_13_07 p_14_07) (empty p_14_08) (next p_14_07 p_14_08)
(empty p_14_09) (next p_14_08 p_14_09) (empty p_14_10) (next p_14_09 p_14_10)
(empty p_01_05) (empty p_01_06) (empty p_01_07) (empty p_01_09) (empty
p_01_10) (empty p_01_11) (empty p_02_01) (empty p_02_02) (empty p_02_08)
(empty p_02_09) (empty p_02_10) (empty p_02_11) (empty p_03_01) (empty
p_03_02) (empty p_03_03) (empty p_03_05) (empty p_03_06) (empty p_03_09)
(empty p_03_10) (empty p_03_11) (empty p_04_05) (empty p_04_06) (empty
p_05_01) (empty p_05_02) (empty p_05_03) (empty p_05_05) (empty p_05_06)
(empty p_05_09) (empty p_05_10) (empty p_05_11) (empty p_06_01) (empty
p_06_02) (empty p_06_03) (empty p_06_04) (empty p_06_05) (empty p_06_06)
(empty p_06_08) (empty p_06_09) (empty p_06_10) (empty p_06_11) (empty
p_07_01) (empty p_07_02) (empty p_07_03) (empty p_07_05) (empty p_07_06)
(empty p_07_09) (empty p_07_10) (empty p_07_11) (empty p_08_05) (empty
p_08_06) (empty p_09_01) (empty p_09_02) (empty p_09_03) (empty p_09_05)
(empty p_09_06) (empty p_09_09) (empty p_09_10) (empty p_09_11) (empty
p_10_01) (empty p_10_02) (empty p_10_03) (empty p_10_04) (empty p_10_05)
(empty p_10_06) (empty p_10_08) (empty p_10_09) (empty p_10_10) (empty
p_10_11) (empty p_11_01) (empty p_11_02) (empty p_11_03) (empty p_11_05)
(empty p_11_06) (empty p_11_09) (empty p_11_10) (empty p_11_11) (empty
p_12_05) (empty p_12_06) (empty p_13_01) (empty p_13_02) (empty p_13_03)

(empty p_13_05) (empty p_13_06) (empty p_13_09) (empty p_13_10) (empty
 p_13_11) (empty p_14_01) (empty p_14_02) (empty p_14_03) (empty p_14_04)
 (empty p_14_05) (empty p_14_06) (empty p_14_11) (empty p_15_01) (empty
 p_15_02) (empty p_15_03) (empty p_15_05) (empty p_15_06) (empty p_15_07)
 (empty p_15_09) (empty p_15_10) (empty p_15_11) (next p_00_00 p_00_01)
 (next p_00_01 p_00_00) (next p_01_00 p_00_00) (next p_00_00 p_01_00) (next
 p_00_01 p_00_02) (next p_00_02 p_00_01) (next p_01_01 p_00_01) (next p_00_01
 p_01_01) (next p_00_02 p_00_03) (next p_00_03 p_00_02) (next p_01_02 p_00_02)
 (next p_00_02 p_01_02) (next p_00_03 p_00_04) (next p_00_04 p_00_03) (next
 p_01_03 p_00_03) (next p_00_03 p_01_03) (next p_00_04 p_00_05) (next p_00_05
 p_00_04) (next p_01_04 p_00_04) (next p_00_04 p_01_04) (next p_00_05 p_00_06)
 (next p_00_06 p_00_05) (next p_01_05 p_00_05) (next p_00_05 p_01_05) (next
 p_00_06 p_00_07) (next p_00_07 p_00_06) (next p_01_06 p_00_06) (next p_00_06
 p_01_06) (next p_00_07 p_00_08) (next p_00_08 p_00_07) (next p_01_07 p_00_07)
 (next p_00_07 p_01_07) (next p_00_08 p_00_09) (next p_00_09 p_00_08) (next
 p_01_08 p_00_08) (next p_00_08 p_01_08) (next p_00_09 p_00_10) (next p_00_10
 p_00_09) (next p_01_09 p_00_09) (next p_00_09 p_01_09) (next p_00_10 p_00_11)
 (next p_00_11 p_00_10) (next p_01_10 p_00_10) (next p_00_10 p_01_10) (next
 p_00_11 p_00_12) (next p_00_12 p_00_11) (next p_01_11 p_00_11) (next p_00_11
 p_01_11) (next p_01_12 p_00_12) (next p_00_12 p_01_12) (next p_01_00 p_01_01)
 (next p_01_01 p_01_00) (next p_02_00 p_01_00) (next p_01_00 p_02_00) (next
 p_01_01 p_01_02) (next p_01_02 p_01_01) (next p_02_01 p_01_01) (next p_01_01
 p_02_01) (next p_01_02 p_01_03) (next p_01_03 p_01_02) (next p_02_02 p_01_02)
 (next p_01_02 p_02_02) (next p_01_03 p_01_04) (next p_01_04 p_01_03) (next
 p_02_03 p_01_03) (next p_01_03 p_02_03) (next p_01_04 p_01_05) (next p_01_05
 p_01_04) (next p_02_04 p_01_04) (next p_01_04 p_02_04) (next p_01_05 p_01_06)
 (next p_01_06 p_01_05) (next p_02_05 p_01_05) (next p_01_05 p_02_05) (next
 p_01_06 p_01_07) (next p_01_07 p_01_06) (next p_02_06 p_01_06) (next p_01_06
 p_02_06) (next p_01_07 p_01_08) (next p_01_08 p_01_07) (next p_02_07 p_01_07)
 (next p_01_07 p_02_07) (next p_01_08 p_01_09) (next p_01_09 p_01_08) (next
 p_02_08 p_01_08) (next p_01_08 p_02_08) (next p_01_09 p_01_10) (next p_01_10
 p_01_09) (next p_02_09 p_01_09) (next p_01_09 p_02_09) (next p_01_10 p_01_11)
 (next p_01_11 p_01_10) (next p_02_10 p_01_10) (next p_01_10 p_02_10) (next
 p_01_11 p_01_12) (next p_01_12 p_01_11) (next p_02_11 p_01_11) (next p_01_11
 p_02_11) (next p_02_12 p_01_12) (next p_01_12 p_02_12) (next p_02_00 p_02_01)
 (next p_02_01 p_02_00) (next p_03_00 p_02_00) (next p_02_00 p_03_00) (next
 p_02_01 p_02_02) (next p_02_02 p_02_01) (next p_03_01 p_02_01) (next p_02_01
 p_03_01) (next p_02_03 p_02_02) (next p_03_02 p_02_02) (next p_02_02 p_03_02)
 (next p_02_04 p_02_03) (next p_03_03 p_02_03) (next p_02_03 p_03_03) (next
 p_02_05 p_02_04) (next p_03_04 p_02_04) (next p_02_04 p_03_04) (next p_02_06
 p_02_05) (next p_03_05 p_02_05) (next p_02_05 p_03_05) (next p_02_07 p_02_06)

(next p_03_06 p_02_06) (next p_02_06 p_03_06) (next p_02_07 p_02_08) (next
 p_02_08 p_02_07) (next p_03_07 p_02_07) (next p_02_08 p_02_09) (next p_02_09
 p_02_08) (next p_03_08 p_02_08) (next p_02_08 p_03_08) (next p_02_09 p_02_10)
 (next p_02_10 p_02_09) (next p_03_09 p_02_09) (next p_02_09 p_03_09) (next
 p_02_10 p_02_11) (next p_02_11 p_02_10) (next p_03_10 p_02_10) (next p_02_10
 p_03_10) (next p_02_11 p_02_12) (next p_02_12 p_02_11) (next p_03_11 p_02_11)
 (next p_02_11 p_03_11) (next p_03_12 p_02_12) (next p_02_12 p_03_12) (next
 p_03_00 p_03_01) (next p_03_01 p_03_00) (next p_04_00 p_03_00) (next p_03_00
 p_04_00) (next p_03_01 p_03_02) (next p_03_02 p_03_01) (next p_04_01 p_03_01)
 (next p_03_01 p_04_01) (next p_03_02 p_03_03) (next p_03_03 p_03_02) (next
 p_04_02 p_03_02) (next p_03_02 p_04_02) (next p_03_03 p_03_04) (next p_03_04
 p_03_03) (next p_04_03 p_03_03) (next p_03_03 p_04_03) (next p_03_04 p_03_05)
 (next p_03_05 p_03_04) (next p_04_04 p_03_04) (next p_03_04 p_04_04) (next
 p_03_05 p_03_06) (next p_03_06 p_03_05) (next p_04_05 p_03_05) (next p_03_05
 p_04_05) (next p_03_06 p_03_07) (next p_03_07 p_03_06) (next p_04_06 p_03_06)
 (next p_03_06 p_04_06) (next p_03_07 p_03_08) (next p_03_08 p_03_07) (next
 p_04_07 p_03_07) (next p_03_08 p_03_09) (next p_03_09 p_03_08) (next p_04_08
 p_03_08) (next p_03_08 p_04_08) (next p_03_09 p_03_10) (next p_03_10 p_03_09)
 (next p_04_09 p_03_09) (next p_03_09 p_04_09) (next p_03_10 p_03_11) (next
 p_03_11 p_03_10) (next p_04_10 p_03_10) (next p_03_10 p_04_10) (next p_03_11
 p_03_12) (next p_03_12 p_03_11) (next p_04_11 p_03_11) (next p_03_11 p_04_11)
 (next p_04_12 p_03_12) (next p_03_12 p_04_12) (next p_04_00 p_04_01) (next
 p_04_01 p_04_00) (next p_05_00 p_04_00) (next p_04_00 p_05_00) (next p_04_01
 p_04_02) (next p_04_02 p_04_01) (next p_05_01 p_04_01) (next p_04_01 p_05_01)
 (next p_04_02 p_04_03) (next p_04_03 p_04_02) (next p_05_02 p_04_02) (next
 p_04_02 p_05_02) (next p_04_03 p_04_04) (next p_04_04 p_04_03) (next p_05_03
 p_04_03) (next p_04_03 p_05_03) (next p_04_04 p_04_05) (next p_04_05 p_04_04)
 (next p_05_04 p_04_04) (next p_04_04 p_05_04) (next p_04_05 p_04_06) (next
 p_04_06 p_04_05) (next p_05_05 p_04_05) (next p_04_05 p_05_05) (next p_04_06
 p_04_07) (next p_04_07 p_04_06) (next p_05_06 p_04_06) (next p_04_06 p_05_06)
 (next p_04_07 p_04_08) (next p_04_08 p_04_07) (next p_05_07 p_04_07) (next
 p_04_08 p_04_09) (next p_04_09 p_04_08) (next p_05_08 p_04_08) (next p_04_08
 p_05_08) (next p_04_09 p_04_10) (next p_04_10 p_04_09) (next p_05_09 p_04_09)
 (next p_04_09 p_05_09) (next p_04_10 p_04_11) (next p_04_11 p_04_10) (next
 p_05_10 p_04_10) (next p_04_10 p_05_10) (next p_04_11 p_04_12) (next p_04_12
 p_04_11) (next p_05_11 p_04_11) (next p_04_11 p_05_11) (next p_05_12 p_04_12)
 (next p_04_12 p_05_12) (next p_05_00 p_05_01) (next p_05_01 p_05_00) (next
 p_06_00 p_05_00) (next p_05_00 p_06_00) (next p_05_01 p_05_02) (next p_05_02
 p_05_01) (next p_06_01 p_05_01) (next p_05_01 p_06_01) (next p_05_02 p_05_03)
 (next p_05_03 p_05_02) (next p_06_02 p_05_02) (next p_05_02 p_06_02) (next
 p_05_03 p_05_04) (next p_05_04 p_05_03) (next p_06_03 p_05_03) (next p_05_03

p_06_03) (next p_05_04 p_05_05) (next p_05_05 p_05_04) (next p_06_04 p_05_04)
 (next p_05_04 p_06_04) (next p_05_05 p_05_06) (next p_05_06 p_05_05) (next
 p_06_05 p_05_05) (next p_05_05 p_06_05) (next p_05_06 p_05_07) (next p_05_07
 p_05_06) (next p_06_06 p_05_06) (next p_05_06 p_06_06) (next p_05_07 p_05_08)
 (next p_05_08 p_05_07) (next p_06_07 p_05_07) (next p_05_08 p_05_09) (next
 p_05_09 p_05_08) (next p_06_08 p_05_08) (next p_05_08 p_06_08) (next p_05_09
 p_05_10) (next p_05_10 p_05_09) (next p_06_09 p_05_09) (next p_05_09 p_06_09)
 (next p_05_10 p_05_11) (next p_05_11 p_05_10) (next p_06_10 p_05_10) (next
 p_05_10 p_06_10) (next p_05_11 p_05_12) (next p_05_12 p_05_11) (next p_06_11
 p_05_11) (next p_05_11 p_06_11) (next p_06_12 p_05_12) (next p_05_12 p_06_12)
 (next p_06_00 p_06_01) (next p_06_01 p_06_00) (next p_07_00 p_06_00) (next
 p_06_00 p_07_00) (next p_06_01 p_06_02) (next p_06_02 p_06_01) (next p_07_01
 p_06_01) (next p_06_01 p_07_01) (next p_06_02 p_06_03) (next p_06_03 p_06_02)
 (next p_07_02 p_06_02) (next p_06_02 p_07_02) (next p_06_03 p_06_04) (next
 p_06_04 p_06_03) (next p_07_03 p_06_03) (next p_06_03 p_07_03) (next p_06_04
 p_06_05) (next p_06_05 p_06_04) (next p_07_04 p_06_04) (next p_06_04 p_07_04)
 (next p_06_05 p_06_06) (next p_06_06 p_06_05) (next p_07_05 p_06_05) (next
 p_06_05 p_07_05) (next p_06_06 p_06_07) (next p_06_07 p_06_06) (next p_07_06
 p_06_06) (next p_06_06 p_07_06) (next p_06_07 p_06_08) (next p_06_08 p_06_07)
 (next p_07_07 p_06_07) (next p_06_08 p_06_09) (next p_06_09 p_06_08) (next
 p_07_08 p_06_08) (next p_06_08 p_07_08) (next p_06_09 p_06_10) (next p_06_10
 p_06_09) (next p_07_09 p_06_09) (next p_06_09 p_07_09) (next p_06_10 p_06_11)
 (next p_06_11 p_06_10) (next p_07_10 p_06_10) (next p_06_10 p_07_10) (next
 p_06_11 p_06_12) (next p_06_12 p_06_11) (next p_07_11 p_06_11) (next p_06_11
 p_07_11) (next p_07_12 p_06_12) (next p_06_12 p_07_12) (next p_07_00 p_07_01)
 (next p_07_01 p_07_00) (next p_08_00 p_07_00) (next p_07_00 p_08_00) (next
 p_07_01 p_07_02) (next p_07_02 p_07_01) (next p_08_01 p_07_01) (next p_07_01
 p_08_01) (next p_07_02 p_07_03) (next p_07_03 p_07_02) (next p_08_02 p_07_02)
 (next p_07_02 p_08_02) (next p_07_03 p_07_04) (next p_07_04 p_07_03) (next
 p_08_03 p_07_03) (next p_07_03 p_08_03) (next p_07_04 p_07_05) (next p_07_05
 p_07_04) (next p_08_04 p_07_04) (next p_07_04 p_08_04) (next p_07_05 p_07_06)
 (next p_07_06 p_07_05) (next p_08_05 p_07_05) (next p_07_05 p_08_05) (next
 p_07_06 p_07_07) (next p_07_07 p_07_06) (next p_08_06 p_07_06) (next p_07_06
 p_08_06) (next p_07_07 p_07_08) (next p_07_08 p_07_07) (next p_08_07 p_07_07)
 (next p_07_08 p_07_09) (next p_07_09 p_07_08) (next p_08_08 p_07_08) (next
 p_07_08 p_08_08) (next p_07_09 p_07_10) (next p_07_10 p_07_09) (next p_08_09
 p_07_09) (next p_07_09 p_08_09) (next p_07_10 p_07_11) (next p_07_11 p_07_10)
 (next p_08_10 p_07_10) (next p_07_10 p_08_10) (next p_07_11 p_07_12) (next
 p_07_12 p_07_11) (next p_08_11 p_07_11) (next p_07_11 p_08_11) (next p_08_12
 p_07_12) (next p_07_12 p_08_12) (next p_08_00 p_08_01) (next p_08_01 p_08_00)
 (next p_09_00 p_08_00) (next p_08_00 p_09_00) (next p_08_01 p_08_02) (next

p_08_02 p_08_01) (next p_09_01 p_08_01) (next p_08_01 p_09_01) (next p_08_02
 p_08_03) (next p_08_03 p_08_02) (next p_09_02 p_08_02) (next p_08_02 p_09_02)
 (next p_08_03 p_08_04) (next p_08_04 p_08_03) (next p_09_03 p_08_03) (next
 p_08_03 p_09_03) (next p_08_04 p_08_05) (next p_08_05 p_08_04) (next p_09_04
 p_08_04) (next p_08_04 p_09_04) (next p_08_05 p_08_06) (next p_08_06 p_08_05)
 (next p_09_05 p_08_05) (next p_08_05 p_09_05) (next p_08_06 p_08_07) (next
 p_08_07 p_08_06) (next p_09_06 p_08_06) (next p_08_06 p_09_06) (next p_08_07
 p_08_08) (next p_08_08 p_08_07) (next p_09_07 p_08_07) (next p_08_08 p_08_09)
 (next p_08_09 p_08_08) (next p_09_08 p_08_08) (next p_08_08 p_09_08) (next
 p_08_09 p_08_10) (next p_08_10 p_08_09) (next p_09_09 p_08_09) (next p_08_09
 p_09_09) (next p_08_10 p_08_11) (next p_08_11 p_08_10) (next p_09_10 p_08_10)
 (next p_08_10 p_09_10) (next p_08_11 p_08_12) (next p_08_12 p_08_11) (next
 p_09_11 p_08_11) (next p_08_11 p_09_11) (next p_09_12 p_08_12) (next p_08_12
 p_09_12) (next p_09_00 p_09_01) (next p_09_01 p_09_00) (next p_10_00 p_09_00)
 (next p_09_00 p_10_00) (next p_09_01 p_09_02) (next p_09_02 p_09_01) (next
 p_10_01 p_09_01) (next p_09_01 p_10_01) (next p_09_02 p_09_03) (next p_09_03
 p_09_02) (next p_10_02 p_09_02) (next p_09_02 p_10_02) (next p_09_03 p_09_04)
 (next p_09_04 p_09_03) (next p_10_03 p_09_03) (next p_09_03 p_10_03) (next
 p_09_04 p_09_05) (next p_09_05 p_09_04) (next p_10_04 p_09_04) (next p_09_04
 p_10_04) (next p_09_05 p_09_06) (next p_09_06 p_09_05) (next p_10_05 p_09_05)
 (next p_09_05 p_10_05) (next p_09_06 p_09_07) (next p_09_07 p_09_06) (next
 p_10_06 p_09_06) (next p_09_06 p_10_06) (next p_09_07 p_09_08) (next p_09_08
 p_09_07) (next p_10_07 p_09_07) (next p_09_08 p_09_09) (next p_09_09 p_09_08)
 (next p_10_08 p_09_08) (next p_09_08 p_10_08) (next p_09_09 p_09_10) (next
 p_09_10 p_09_09) (next p_10_09 p_09_09) (next p_09_09 p_10_09) (next p_09_10
 p_09_11) (next p_09_11 p_09_10) (next p_10_10 p_09_10) (next p_09_10 p_10_10)
 (next p_09_11 p_09_12) (next p_09_12 p_09_11) (next p_10_11 p_09_11) (next
 p_09_11 p_10_11) (next p_10_12 p_09_12) (next p_09_12 p_10_12) (next p_10_00
 p_10_01) (next p_10_01 p_10_00) (next p_11_00 p_10_00) (next p_10_00 p_11_00)
 (next p_10_01 p_10_02) (next p_10_02 p_10_01) (next p_11_01 p_10_01) (next
 p_10_01 p_11_01) (next p_10_02 p_10_03) (next p_10_03 p_10_02) (next p_11_02
 p_10_02) (next p_10_02 p_11_02) (next p_10_03 p_10_04) (next p_10_04 p_10_03)
 (next p_11_03 p_10_03) (next p_10_03 p_11_03) (next p_10_04 p_10_05) (next
 p_10_05 p_10_04) (next p_11_04 p_10_04) (next p_10_04 p_11_04) (next p_10_05
 p_10_06) (next p_10_06 p_10_05) (next p_11_05 p_10_05) (next p_10_05 p_11_05)
 (next p_10_06 p_10_07) (next p_10_07 p_10_06) (next p_11_06 p_10_06) (next
 p_10_06 p_11_06) (next p_10_07 p_10_08) (next p_10_08 p_10_07) (next p_11_07
 p_10_07) (next p_10_08 p_10_09) (next p_10_09 p_10_08) (next p_11_08 p_10_08)
 (next p_10_08 p_11_08) (next p_10_09 p_10_10) (next p_10_10 p_10_09) (next
 p_11_09 p_10_09) (next p_10_09 p_11_09) (next p_10_10 p_10_11) (next p_10_11
 p_10_10) (next p_11_10 p_10_10) (next p_10_10 p_11_10) (next p_10_11 p_10_12)

(next p_10_12 p_10_11) (next p_11_11 p_10_11) (next p_10_11 p_11_11) (next
 p_11_12 p_10_12) (next p_10_12 p_11_12) (next p_11_00 p_11_01) (next p_11_01
 p_11_00) (next p_12_00 p_11_00) (next p_11_00 p_12_00) (next p_11_01 p_11_02)
 (next p_11_02 p_11_01) (next p_12_01 p_11_01) (next p_11_01 p_12_01) (next
 p_11_02 p_11_03) (next p_11_03 p_11_02) (next p_12_02 p_11_02) (next p_11_02
 p_12_02) (next p_11_03 p_11_04) (next p_11_04 p_11_03) (next p_12_03 p_11_03)
 (next p_11_03 p_12_03) (next p_11_04 p_11_05) (next p_11_05 p_11_04) (next
 p_12_04 p_11_04) (next p_11_04 p_12_04) (next p_11_05 p_11_06) (next p_11_06
 p_11_05) (next p_12_05 p_11_05) (next p_11_05 p_12_05) (next p_11_06 p_11_07)
 (next p_11_07 p_11_06) (next p_12_06 p_11_06) (next p_11_06 p_12_06) (next
 p_11_07 p_11_08) (next p_11_08 p_11_07) (next p_12_07 p_11_07) (next p_11_08
 p_11_09) (next p_11_09 p_11_08) (next p_12_08 p_11_08) (next p_11_08 p_12_08)
 (next p_11_09 p_11_10) (next p_11_10 p_11_09) (next p_12_09 p_11_09) (next
 p_11_09 p_12_09) (next p_11_10 p_11_11) (next p_11_11 p_11_10) (next p_12_10
 p_11_10) (next p_11_10 p_12_10) (next p_11_11 p_11_12) (next p_11_12 p_11_11)
 (next p_12_11 p_11_11) (next p_11_11 p_12_11) (next p_12_12 p_11_12) (next
 p_11_12 p_12_12) (next p_12_00 p_12_01) (next p_12_01 p_12_00) (next p_13_00
 p_12_00) (next p_12_00 p_13_00) (next p_12_01 p_12_02) (next p_12_02 p_12_01)
 (next p_13_01 p_12_01) (next p_12_01 p_13_01) (next p_12_02 p_12_03) (next
 p_12_03 p_12_02) (next p_13_02 p_12_02) (next p_12_02 p_13_02) (next p_12_03
 p_12_04) (next p_12_04 p_12_03) (next p_13_03 p_12_03) (next p_12_03 p_13_03)
 (next p_12_04 p_12_05) (next p_12_05 p_12_04) (next p_13_04 p_12_04) (next
 p_12_04 p_13_04) (next p_12_05 p_12_06) (next p_12_06 p_12_05) (next p_13_05
 p_12_05) (next p_12_05 p_13_05) (next p_12_06 p_12_07) (next p_12_07 p_12_06)
 (next p_13_06 p_12_06) (next p_12_06 p_13_06) (next p_12_07 p_12_08) (next
 p_12_08 p_12_07) (next p_13_07 p_12_07) (next p_12_08 p_12_09) (next p_12_09
 p_12_08) (next p_13_08 p_12_08) (next p_12_08 p_13_08) (next p_12_09 p_12_10)
 (next p_12_10 p_12_09) (next p_13_09 p_12_09) (next p_12_09 p_13_09) (next
 p_12_10 p_12_11) (next p_12_11 p_12_10) (next p_13_10 p_12_10) (next p_12_10
 p_13_10) (next p_12_11 p_12_12) (next p_12_12 p_12_11) (next p_13_11 p_12_11)
 (next p_12_11 p_13_11) (next p_13_12 p_12_12) (next p_12_12 p_13_12) (next
 p_13_00 p_13_01) (next p_13_01 p_13_00) (next p_14_00 p_13_00) (next p_13_00
 p_14_00) (next p_13_01 p_13_02) (next p_13_02 p_13_01) (next p_14_01 p_13_01)
 (next p_13_01 p_14_01) (next p_13_02 p_13_03) (next p_13_03 p_13_02) (next
 p_14_02 p_13_02) (next p_13_02 p_14_02) (next p_13_03 p_13_04) (next p_13_04
 p_13_03) (next p_14_03 p_13_03) (next p_13_03 p_14_03) (next p_13_04 p_13_05)
 (next p_13_05 p_13_04) (next p_14_04 p_13_04) (next p_13_04 p_14_04) (next
 p_13_05 p_13_06) (next p_13_06 p_13_05) (next p_14_05 p_13_05) (next p_13_05
 p_14_05) (next p_13_06 p_13_07) (next p_13_07 p_13_06) (next p_14_06 p_13_06)
 (next p_13_06 p_14_06) (next p_13_07 p_13_08) (next p_13_08 p_13_07) (next
 p_14_07 p_13_07) (next p_13_08 p_13_09) (next p_13_09 p_13_08) (next p_14_08

p_13_08) (next p_13_08 p_14_08) (next p_13_09 p_13_10) (next p_13_10 p_13_09)
 (next p_14_09 p_13_09) (next p_13_09 p_14_09) (next p_13_10 p_13_11) (next
 p_13_11 p_13_10) (next p_14_10 p_13_10) (next p_13_10 p_14_10) (next p_13_11
 p_13_12) (next p_13_12 p_13_11) (next p_14_11 p_13_11) (next p_13_11 p_14_11)
 (next p_14_12 p_13_12) (next p_13_12 p_14_12) (next p_14_00 p_14_01) (next
 p_14_01 p_14_00) (next p_15_00 p_14_00) (next p_14_00 p_15_00) (next p_14_01
 p_14_02) (next p_14_02 p_14_01) (next p_15_01 p_14_01) (next p_14_01 p_15_01)
 (next p_14_02 p_14_03) (next p_14_03 p_14_02) (next p_15_02 p_14_02) (next
 p_14_02 p_15_02) (next p_14_03 p_14_04) (next p_14_04 p_14_03) (next p_15_03
 p_14_03) (next p_14_03 p_15_03) (next p_14_04 p_14_05) (next p_14_05 p_14_04)
 (next p_15_04 p_14_04) (next p_14_04 p_15_04) (next p_14_05 p_14_06) (next
 p_14_06 p_14_05) (next p_15_05 p_14_05) (next p_14_05 p_15_05) (next p_14_06
 p_14_07) (next p_14_07 p_14_06) (next p_15_06 p_14_06) (next p_14_06 p_15_06)
 (next p_14_08 p_14_07) (next p_15_07 p_14_07) (next p_14_07 p_15_07) (next
 p_14_09 p_14_08) (next p_15_08 p_14_08) (next p_14_08 p_15_08) (next p_14_10
 p_14_09) (next p_15_09 p_14_09) (next p_14_09 p_15_09) (next p_14_10 p_14_11)
 (next p_14_11 p_14_10) (next p_15_10 p_14_10) (next p_14_10 p_15_10) (next
 p_14_11 p_14_12) (next p_14_12 p_14_11) (next p_15_11 p_14_11) (next p_14_11
 p_15_11) (next p_15_12 p_14_12) (next p_14_12 p_15_12) (next p_15_00 p_15_01)
 (next p_15_01 p_15_00) (next p_16_00 p_15_00) (next p_15_00 p_16_00) (next
 p_15_01 p_15_02) (next p_15_02 p_15_01) (next p_16_01 p_15_01) (next p_15_01
 p_16_01) (next p_15_02 p_15_03) (next p_15_03 p_15_02) (next p_16_02 p_15_02)
 (next p_15_02 p_16_02) (next p_15_03 p_15_04) (next p_15_04 p_15_03) (next
 p_16_03 p_15_03) (next p_15_03 p_16_03) (next p_15_04 p_15_05) (next p_15_05
 p_15_04) (next p_16_04 p_15_04) (next p_15_04 p_16_04) (next p_15_05 p_15_06)
 (next p_15_06 p_15_05) (next p_16_05 p_15_05) (next p_15_05 p_16_05) (next
 p_15_06 p_15_07) (next p_15_07 p_15_06) (next p_16_06 p_15_06) (next p_15_06
 p_16_06) (next p_15_07 p_15_08) (next p_15_08 p_15_07) (next p_16_07 p_15_07)
 (next p_15_07 p_16_07) (next p_15_08 p_15_09) (next p_15_09 p_15_08) (next
 p_16_08 p_15_08) (next p_15_08 p_16_08) (next p_15_09 p_15_10) (next p_15_10
 p_15_09) (next p_16_09 p_15_09) (next p_15_09 p_16_09) (next p_15_10 p_15_11)
 (next p_15_11 p_15_10) (next p_16_10 p_15_10) (next p_15_10 p_16_10) (next
 p_15_11 p_15_12) (next p_15_12 p_15_11) (next p_16_11 p_15_11) (next p_15_11
 p_16_11) (next p_16_12 p_15_12) (next p_15_12 p_16_12) (next p_16_00 p_16_01)
 (next p_16_01 p_16_00) (next p_16_01 p_16_02) (next p_16_02 p_16_01) (next
 p_16_02 p_16_03) (next p_16_03 p_16_02) (next p_16_03 p_16_04) (next p_16_04
 p_16_03) (next p_16_04 p_16_05) (next p_16_05 p_16_04) (next p_16_05 p_16_06)
 (next p_16_06 p_16_05) (next p_16_06 p_16_07) (next p_16_07 p_16_06) (next
 p_16_07 p_16_08) (next p_16_08 p_16_07) (next p_16_08 p_16_09) (next p_16_09
 p_16_08) (next p_16_09 p_16_10) (next p_16_10 p_16_09) (next p_16_10 p_16_11)
 (next p_16_11 p_16_10) (next p_16_11 p_16_12) (next p_16_12 p_16_11) (at r

p_14_10)

2.4 Gantt Chart

Gantt Chart Key

Row 1

No	Time	Action
1	0	(move r p_02_02 p_02_03) [1]
2	1.001	(move r p_02_03 p_02_04) [1]
3	2.002	(move r p_02_04 p_02_05) [1]
4	3.003	(move r p_02_05 p_02_06) [1]
5	4.004	(move r p_02_06 p_02_07) [1]
6	5.005	(move r p_02_07 p_03_07) [1]
7	6.006	(move r p_03_07 p_04_07) [1]
8	7.007	(move r p_04_07 p_05_07) [1]
9	8.008	(move r p_05_07 p_06_07) [1]
10	9.009	(move r p_06_07 p_07_07) [1]
11	10.01	(move r p_07_07 p_08_07) [1]
12	11.011	(move r p_08_07 p_09_07) [1]
13	12.012	(move r p_09_07 p_10_07) [1]
14	13.013	(move r p_10_07 p_11_07) [1]
15	14.014	(move r p_11_07 p_12_07) [1]
16	15.015	(move r p_12_07 p_13_07) [1]
17	16.016	(move r p_13_07 p_14_07) [1]
18	17.017	(move r p_14_07 p_14_08) [1]
19	18.018	(move r p_14_08 p_14_09) [1]
20	19.019	(move r p_14_09 p_14_10) [1]

3 Successful Plans

Value Plan

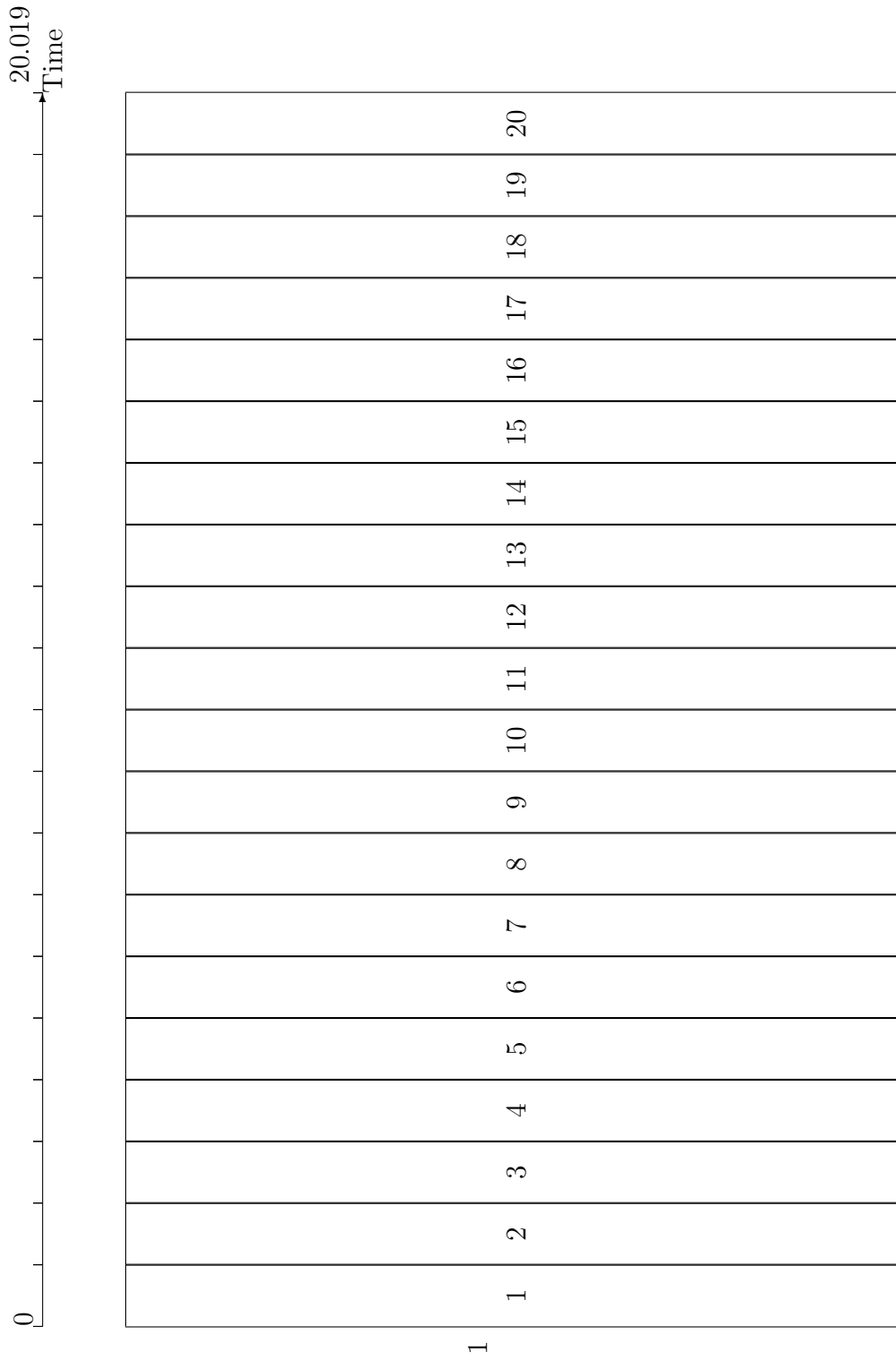


Figure 2.1: Gantt Chart