

AMS-Projekt im WS 2013/14  
MASDAR CITY - Personal Rapid Transit  
Beispiele für Fahraufträge

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# 1 Fahrauftrag F1 - From task description - this should be easy!

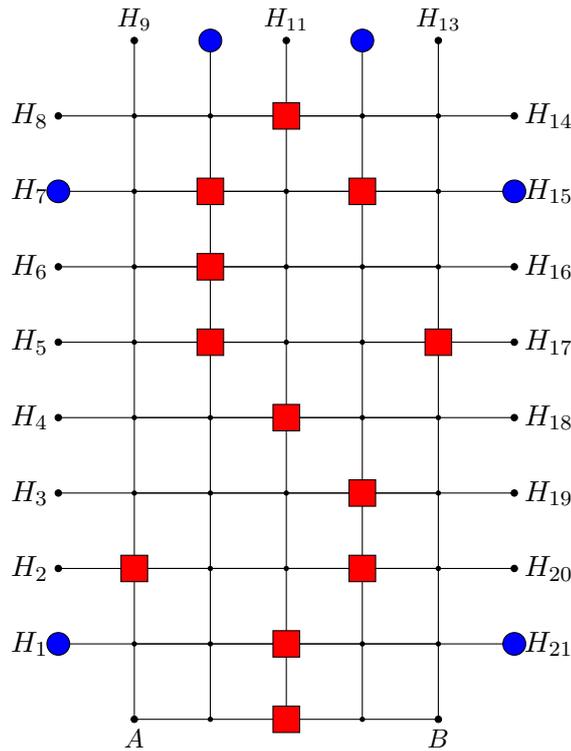


Abbildung 1: Fahrauftrag F1  $xxFx\text{Fxxx}\dots x\text{.}x\text{F}\text{.}x\text{.}x\text{F}\text{.}x\text{.}x\dots xx\text{.}x\text{.}xxx\text{.}x\text{.}xx\dots x\text{.}xxx\text{.}x\text{.}x\text{F}\text{.}x\text{.}x\text{F}\text{.}x\text{.}x$

configuration usable, but some warnings because of different number of path alternatives

solution for passenger 1: path: [56, 57, 64], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [14, 15, 22, 29, 36, 43, 44, 51, 58, 65, 64], length: 11, rotations: 5, number of paths with length of 11 and perhaps more rotations: 4

solution for passenger 3: path: [2, 9, 8, 15, 22, 29, 36, 43, 44, 51, 58, 65, 64], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 4

solution for passenger 1: path: [62, 61, 68], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [20, 19, 26, 25, 32, 39, 40, 47, 54, 61, 68], length: 11, rotations: 5, number of paths with length of 11 and perhaps more rotations: 1

solution for passenger 3: path: [4, 11, 12, 19, 26, 25, 32, 39, 40, 47, 54, 61, 68], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 1

## 2 Fahrauftrag F2 - From task description - one crossing modified

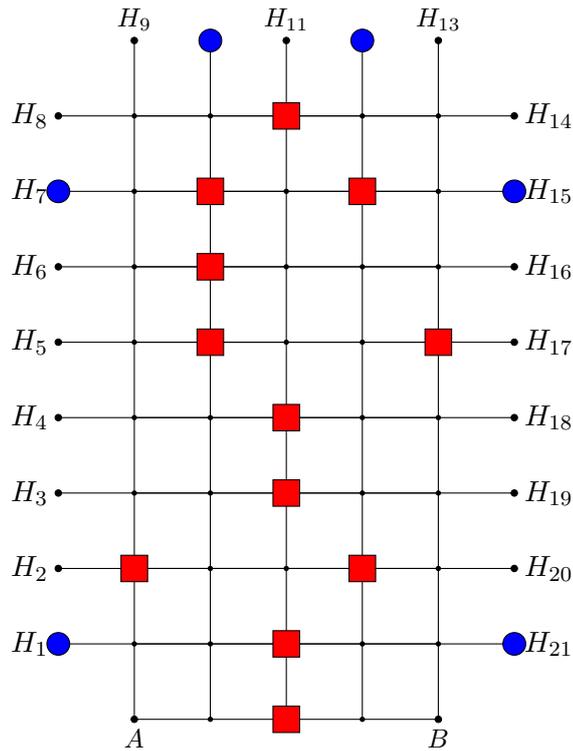


Abbildung 2: Fahrauftrag F2 `xxFxFxxx..x..xF.x.x.Fx.x...xx.x...xxx..x...xx..x...xxx..x.xF..x..Fx..x..x`

configuration usable, but some warnings because of different number of path alternatives

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solution for passenger 1: path: [56, 57, 64], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [14, 15, 22, 29, 36, 43, 44, 51, 58, 65, 64], length: 11, rotations: 5, number of paths with length of 11 and perhaps more rotations: 4

solution for passenger 3: path: [2, 9, 8, 15, 22, 29, 36, 43, 44, 51, 58, 65, 64], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 4

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solution for passenger 1: path: [62, 61, 68], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [20, 19, 26, 25, 32, 39, 46, 47, 54, 61, 68], length: 11, rotations: 5, number of paths with length of 11 and perhaps more rotations: 2

solution for passenger 3: path: [4, 11, 12, 19, 26, 25, 32, 39, 46, 47, 54, 61, 68], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 2

### 3 Fahrauftrag F3 - City Slalom

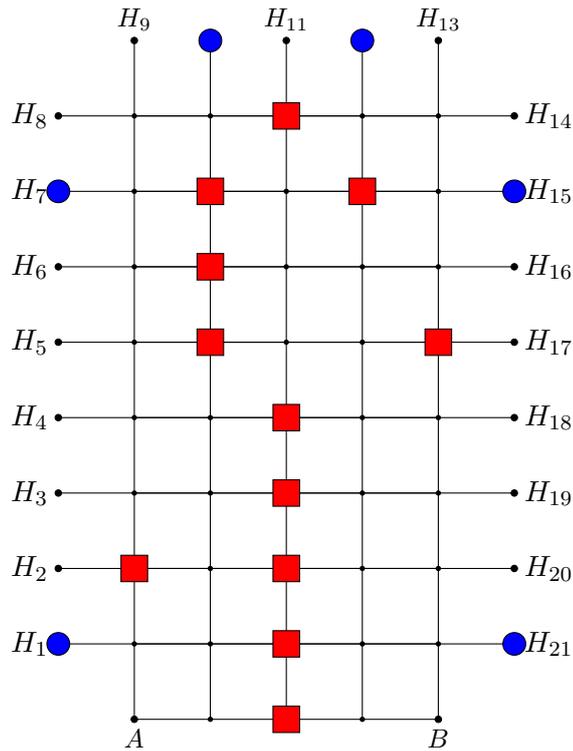


Abbildung 3: Fahrauftrag F3 `xxFxFxxxx..x..xF.x.x.Fx.x...xx.x...xxx..x...xx..x...xxx.x..xF..x..Fx..x..x`

configuration usable, but some warnings because of different number of path alternatives

solution for passenger 1: path: [56, 57, 64], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [14, 15, 22, 29, 36, 43, 44, 51, 58, 65, 64], length: 11, rotations: 5, number of paths with length of 11 and perhaps more rotations: 4

solution for passenger 3: path: [2, 9, 8, 15, 22, 29, 36, 43, 44, 51, 58, 65, 64], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 4

solution for passenger 1: path: [62, 61, 68], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [20, 19, 26, 25, 32, 39, 46, 53, 60, 67, 68], length: 11, rotations: 5, number of paths with length of 11 and perhaps more rotations: 5

solution for passenger 3: path: [4, 11, 12, 19, 26, 25, 32, 39, 46, 53, 60, 67, 68], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 5

## 4 Fahrauftrag F4 - Race on the Highway

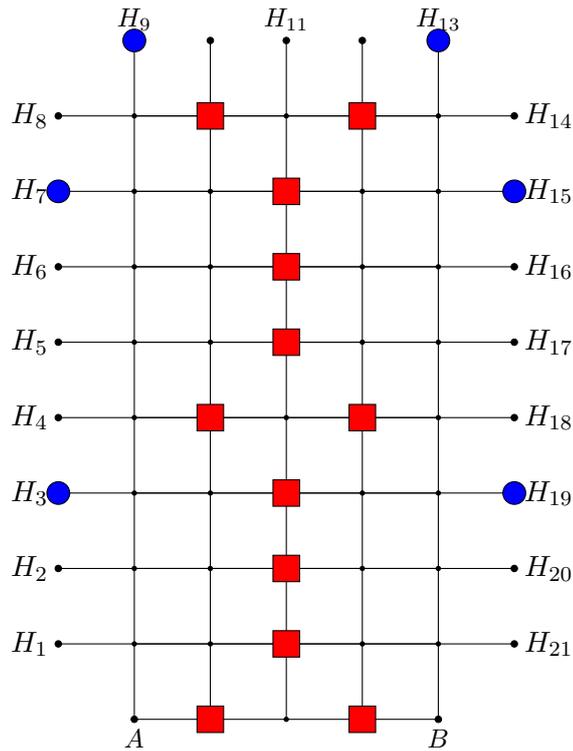


Abbildung 4: Fahrauftrag F4 xFxxxFxx.x.xxF...x..Fx..x..xx..x..xx.x.xxF...x..Fx..x..xx..x..xx.x.x.x

configuration absolut ok

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solution for passenger 1: path: [42, 43, 50, 57, 64], length: 5, rotations: 1, number of paths with length of 5 and perhaps more rotations: 1

solution for passenger 2: path: [14, 15, 22, 29, 36, 43, 50, 57, 64], length: 9, rotations: 1, number of paths with length of 9 and perhaps more rotations: 1

solution for passenger 3: path: [1, 8, 15, 22, 29, 36, 43, 50, 57, 64], length: 10, rotations: 0, number of paths with length of 10 and perhaps more rotations: 1

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solution for passenger 1: path: [48, 47, 54, 61, 68], length: 5, rotations: 1, number of paths with length of 5 and perhaps more rotations: 1

solution for passenger 2: path: [20, 19, 26, 33, 40, 47, 54, 61, 68], length: 9, rotations: 1, number of paths with length of 9 and perhaps more rotations: 1

solution for passenger 3: path: [5, 12, 19, 26, 33, 40, 47, 54, 61, 68], length: 10, rotations: 0, number of paths with length of 10 and perhaps more rotations: 1

## 5 Fahrauftrag F5 - Big Slalom

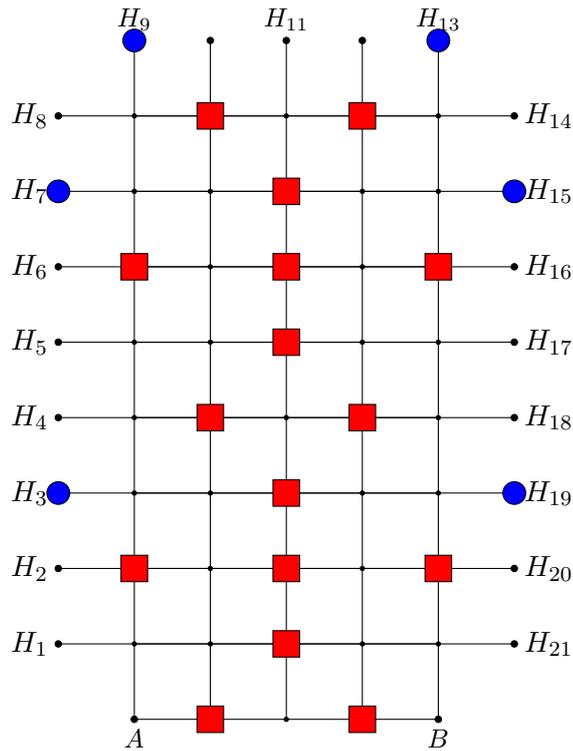


Abbildung 5: Fahrauftrag F5 xFxxxFxx.x.xxF...x..Fxx.x.xxx..x..xx.x.x.xF...Fxx.x.xxx..x..xx.x.x.x

configuration absolut ok

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solution for passenger 1: path: [42, 43, 44, 51, 58, 57, 64], length: 7, rotations: 3, number of paths with length of 7 and perhaps more rotations: 1

solution for passenger 2: path: [14, 15, 16, 23, 30, 29, 36, 43, 44, 51, 58, 57, 64], length: 13, rotations: 7, number of paths with length of 13 and perhaps more rotations: 1

solution for passenger 3: path: [1, 8, 15, 16, 23, 30, 29, 36, 43, 44, 51, 58, 57, 64], length: 14, rotations: 8, number of paths with length of 14 and perhaps more rotations: 1

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solution for passenger 1: path: [48, 47, 46, 53, 60, 61, 68], length: 7, rotations: 3, number of paths with length of 7 and perhaps more rotations: 1

solution for passenger 2: path: [20, 19, 18, 25, 32, 33, 40, 47, 46, 53, 60, 61, 68], length: 13, rotations: 7, number of paths with length of 13 and perhaps more rotations: 1

solution for passenger 3: path: [5, 12, 19, 18, 25, 32, 33, 40, 47, 46, 53, 60, 61, 68], length: 14, rotations: 8, number of paths with length of 14 and perhaps more rotations: 1

## 6 Fahrauftrag F6 - Symmetry

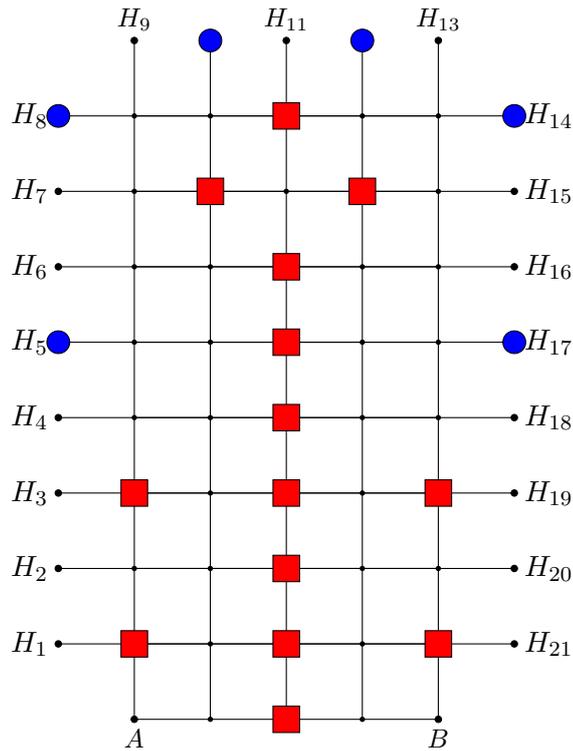


Abbildung 6: Fahrauftrag F6  $xxFx FxxF \dots Fx.x.x.xx \dots xxF \dots Fx \dots xxx.x.xxx \dots xxx.x.xxx \dots x$

configuration absolut ok

solution for passenger 1: path: [28, 29, 30, 37, 44, 51, 58, 65, 64], length: 9, rotations: 3, number of paths with length of 9 and perhaps more rotations: 2

solution for passenger 2: path: [7, 8, 15, 22, 29, 36, 37, 44, 51, 58, 65, 64], length: 12, rotations: 5, number of paths with length of 12 and perhaps more rotations: 3

solution for passenger 3: path: [2, 9, 8, 15, 22, 29, 36, 37, 44, 51, 58, 65, 64], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 3

solution for passenger 1: path: [34, 33, 32, 39, 46, 53, 60, 67, 68], length: 9, rotations: 3, number of paths with length of 9 and perhaps more rotations: 2

solution for passenger 2: path: [13, 12, 19, 26, 33, 40, 39, 46, 53, 60, 67, 68], length: 12, rotations: 5, number of paths with length of 12 and perhaps more rotations: 3

solution for passenger 3: path: [4, 11, 12, 19, 26, 33, 40, 39, 46, 53, 60, 67, 68], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 3

## 7 Fahrauftrag F7 - Connected Game

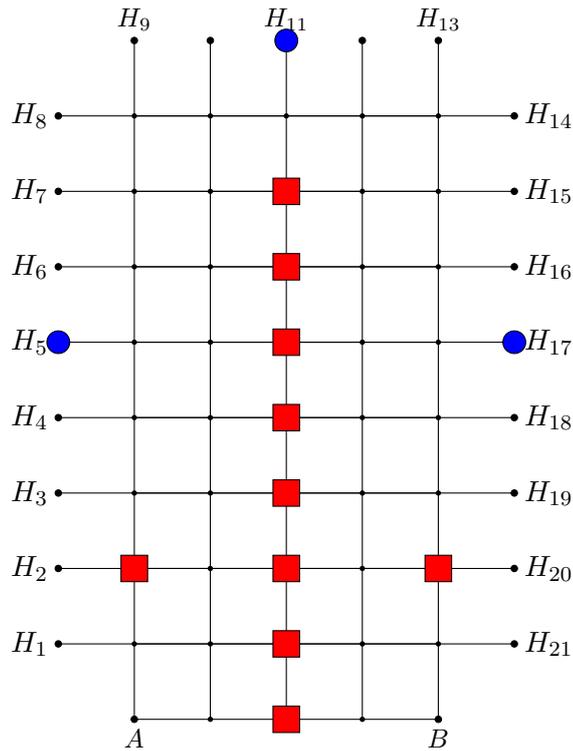


Abbildung 7: Fahrauftrag F7 xxxFxxxx.....xx..x..xx..x..xF..x..Fx..x..xx..x..xxx.x.xxx..x..xx..x..x

configuration absolut ok

solution for passenger 1: path: [28, 29, 30, 37, 44, 51, 58, 65, 64], length: 9, rotations: 3, number of paths with length of 9 and perhaps more rotations: 6

solution for passenger 2: path: [3, 10, 9, 16, 23, 30, 37, 44, 51, 58, 65, 64], length: 12, rotations: 4, number of paths with length of 12 and perhaps more rotations: 2

solution for passenger 3: path: [34, 33, 26, 19, 12, 11, 10, 9, 16, 23, 30, 37, 44, 51, 58, 65, 64], length: 17, rotations: 5, number of paths with length of 17 and perhaps more rotations: 8

solution for passenger 1: path: [34, 33, 32, 39, 46, 53, 60, 67, 68], length: 9, rotations: 3, number of paths with length of 9 and perhaps more rotations: 6

solution for passenger 2: path: [3, 10, 11, 18, 25, 32, 39, 46, 53, 60, 67, 68], length: 12, rotations: 4, number of paths with length of 12 and perhaps more rotations: 2

solution for passenger 3: path: [28, 29, 22, 15, 8, 9, 10, 11, 18, 25, 32, 39, 46, 53, 60, 67, 68], length: 17, rotations: 5, number of paths with length of 17 and perhaps more rotations: 8

## 8 Fahrauftrag F8 - Blocked Passengers

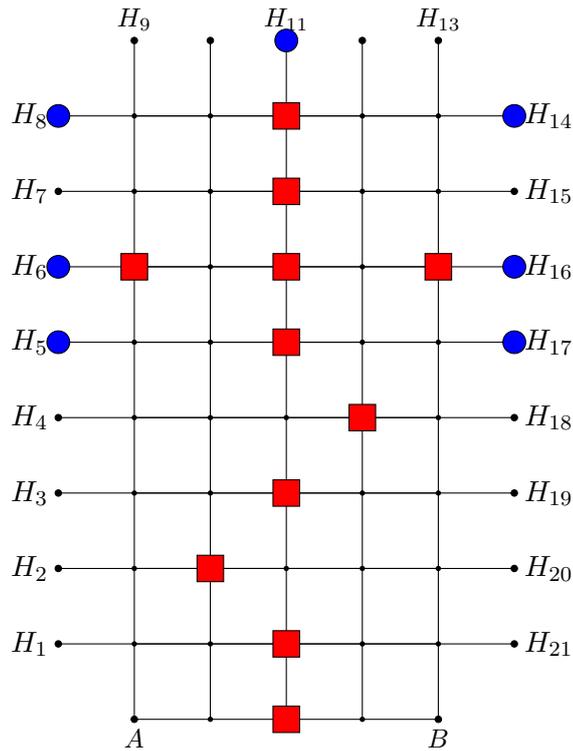


Abbildung 8: Fahrauftrag F8 xxxFxxxF...x..Fx..x..xFx.x.xFF...x..Fx...x.xx..x..xx.x...xx..x..xx..x..x

configuration usable, but some warnings because of different number of path alternatives

solution for passenger 1: path: [28, 29, 36, 43, 50, 57, 64], length: 7, rotations: 1, number of paths with length of 7 and perhaps more rotations: 1

solution for passenger 2: path: [7, 8, 9, 16, 23, 30, 37, 44, 43, 50, 57, 64], length: 12, rotations: 3, number of paths with length of 12 and perhaps more rotations: 6

solution for passenger 1: path: [34, 33, 40, 47, 54, 61, 68], length: 7, rotations: 1, number of paths with length of 7 and perhaps more rotations: 1

solution for passenger 2: path: [13, 12, 11, 18, 25, 32, 33, 40, 47, 54, 61, 68], length: 12, rotations: 3, number of paths with length of 12 and perhaps more rotations: 2

## 9 Fahrauftrag F9 - Outdoor - Free Land

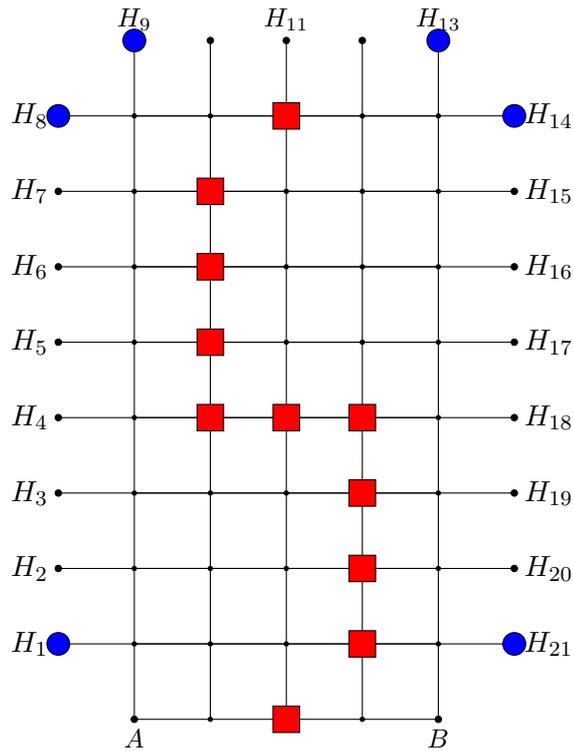


Abbildung 9: Fahrauftrag F9  $x F x x x F x F \dots F x . x \dots x x . x \dots x x . x \dots x x . x x x . x x \dots x . x x \dots x . x F \dots x . F x \dots x . x$

configuration absolut ok

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solution for passenger 1: path: [56, 57, 64], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [1, 8, 15, 22, 29, 36, 43, 50, 57, 64], length: 10, rotations: 0, number of paths with length of 10 and perhaps more rotations: 1

solution for passenger 3: path: [7, 8, 15, 22, 29, 36, 43, 50, 57, 64], length: 10, rotations: 1, number of paths with length of 10 and perhaps more rotations: 1

---

solution for passenger 1: path: [62, 61, 68], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [5, 12, 19, 26, 33, 40, 47, 54, 61, 68], length: 10, rotations: 0, number of paths with length of 10 and perhaps more rotations: 1

solution for passenger 3: path: [13, 12, 19, 26, 33, 40, 47, 54, 61, 68], length: 10, rotations: 1, number of paths with length of 10 and perhaps more rotations: 1

## 10 Fahrauftrag F10 - Long Distance - Endurance

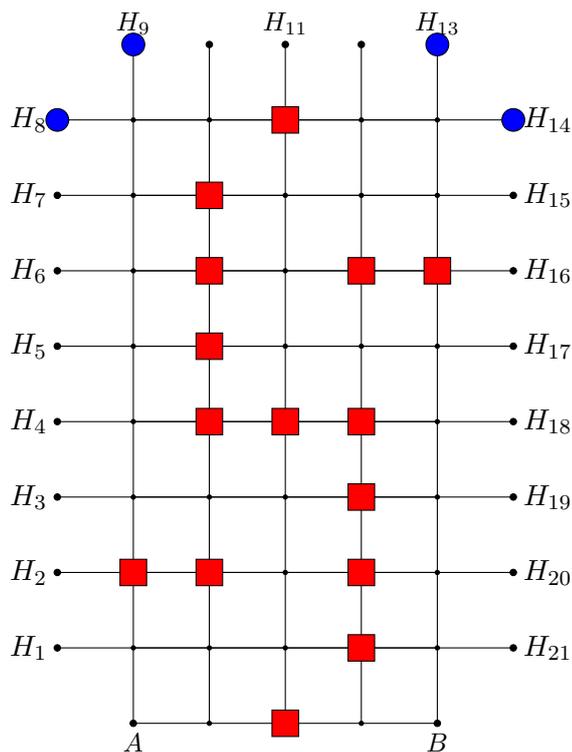


Abbildung 10: Fahrauftrag F10 xFxxxFxF...x..Fx.x...xx.x.xxxx.x...xx.xxx.xx...x.xxxx.x.xx...x.xx...x..x

configuration absolut ok

solution for passenger 1: path: [1, 8, 15, 22, 29, 36, 43, 44, 45, 52, 59, 58, 57, 64], length: 14, rotations: 4, number of paths with length of 14 and perhaps more rotations: 2

solution for passenger 2: path: [7, 8, 15, 22, 29, 36, 43, 44, 45, 52, 59, 58, 57, 64], length: 14, rotations: 5, number of paths with length of 14 and perhaps more rotations: 2

solution for passenger 1: path: [5, 12, 19, 18, 17, 24, 31, 32, 33, 40, 47, 54, 61, 68], length: 14, rotations: 4, number of paths with length of 14 and perhaps more rotations: 2

solution for passenger 2: path: [13, 12, 19, 18, 17, 24, 31, 32, 33, 40, 47, 54, 61, 68], length: 14, rotations: 5, number of paths with length of 14 and perhaps more rotations: 2

# 11 Fahrauftrag F11 - VIP

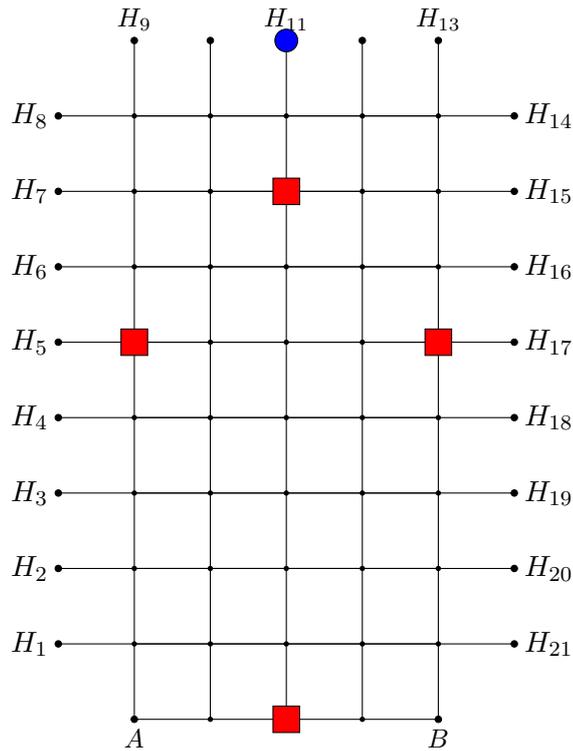


Abbildung 11: Fahrauftrag F11 xxxFxxxx.....xx..x..xx.....xxx...xxx.....xx.....xx.....xx.....xx..x..x

configuration absolut ok

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solution for passenger 1: path: [3, 10, 9, 16, 23, 30, 37, 44, 51, 58, 65, 64], length: 12, rotations: 4, number of paths with length of 12 and perhaps more rotations: 5

---

solution for passenger 1: path: [3, 10, 11, 18, 25, 32, 39, 46, 53, 60, 67, 68], length: 12, rotations: 4, number of paths with length of 12 and perhaps more rotations: 5

## 12 Fahrauftrag F12 - Lazy Passengers

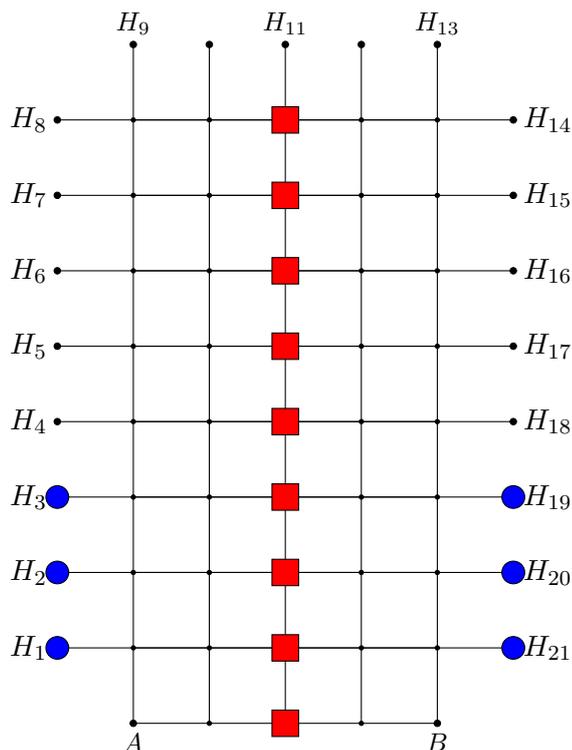


Abbildung 12: Fahrauftrag F12 xxxxxxxx..x..xx..x..xx..x..xx..x..xx..x..xF..x..FF..x..FF..x..Fx..x..x

configuration absolut ok

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solution for passenger 1: path: [56, 57, 64], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [49, 50, 57, 64], length: 4, rotations: 1, number of paths with length of 4 and perhaps more rotations: 1

solution for passenger 3: path: [42, 43, 50, 57, 64], length: 5, rotations: 1, number of paths with length of 5 and perhaps more rotations: 1

---

solution for passenger 1: path: [62, 61, 68], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [55, 54, 61, 68], length: 4, rotations: 1, number of paths with length of 4 and perhaps more rotations: 1

solution for passenger 3: path: [48, 47, 54, 61, 68], length: 5, rotations: 1, number of paths with length of 5 and perhaps more rotations: 1

### 13 Fahrauftrag F13 - DennisWeil Route.1

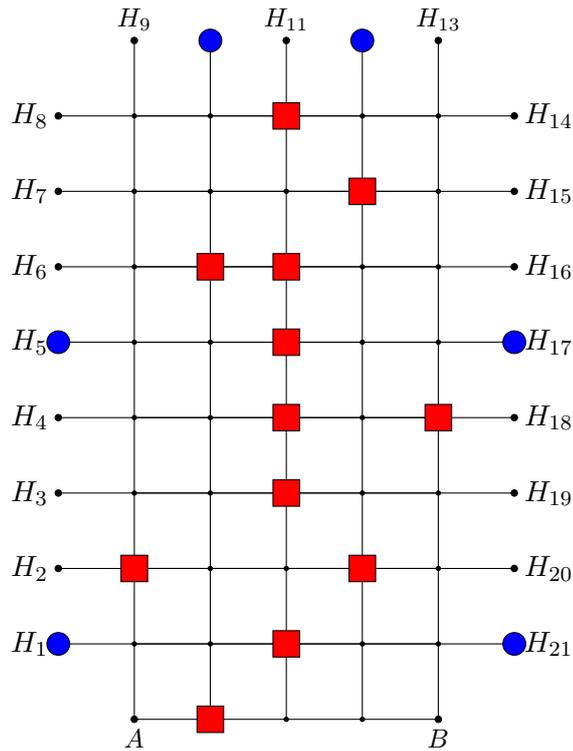


Abbildung 13: Fahrauftrag F13  $xxFx\bar{F}xxx\dots x\dots xx\dots x.xx.xx\dots xF\dots x\dots Fx\dots x.xxx\dots x.xxx\dots x.F\dots x\dots Fx\dots x\dots x$

configuration usable, but some warnings because of different number of path alternatives

solution for passenger 1: path: [56, 57, 64], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [28, 29, 30, 37, 44, 51, 58, 57, 64], length: 9, rotations: 3, number of paths with length of 9 and perhaps more rotations: 3

solution for passenger 3: path: [2, 9, 16, 15, 22, 29, 36, 43, 44, 51, 58, 57, 64], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 6

solution for passenger 1: path: [62, 61, 68], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [34, 33, 32, 39, 46, 47, 54, 61, 68], length: 9, rotations: 3, number of paths with length of 9 and perhaps more rotations: 1

solution for passenger 3: path: [4, 11, 12, 19, 26, 33, 32, 39, 46, 47, 54, 61, 68], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 2

## 14 Fahrauftrag F14 - DennisWeil.Route.2

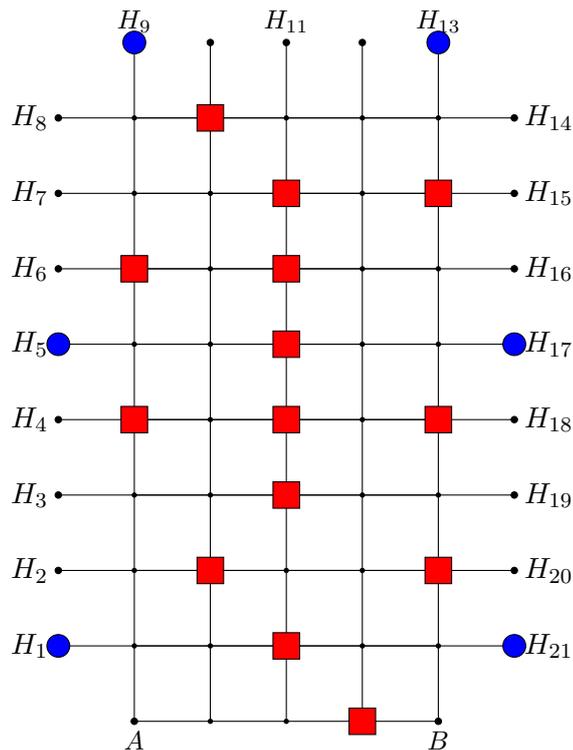


Abbildung 14: Fahrauftrag F14  $xF_{xxx}F_{xx.x...xx..x.xxxx.x..xF_{..x..F_{xx.x.xxx..x..xx.x..xxF_{..x..F_x...x.x}$

configuration absolut ok

solution for passenger 1: path: [56, 57, 64], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [28, 29, 30, 37, 44, 43, 50, 57, 64], length: 9, rotations: 3, number of paths with length of 9 and perhaps more rotations: 1

solution for passenger 3: path: [1, 8, 15, 16, 23, 30, 37, 44, 43, 50, 57, 64], length: 12, rotations: 4, number of paths with length of 12 and perhaps more rotations: 1

solution for passenger 1: path: [62, 61, 68], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [34, 33, 32, 39, 46, 53, 60, 61, 68], length: 9, rotations: 3, number of paths with length of 9 and perhaps more rotations: 1

solution for passenger 3: path: [5, 12, 11, 18, 25, 32, 39, 46, 53, 60, 61, 68], length: 12, rotations: 4, number of paths with length of 12 and perhaps more rotations: 1

## 15 Fahrauftrag F15 - DennisWeil.Route.3

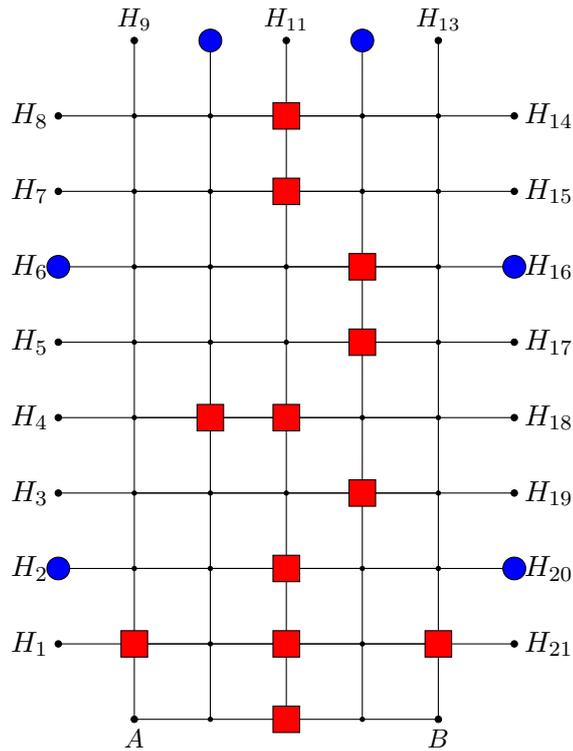


Abbildung 15: Fahrauftrag F15  $xxFx\text{Fxxx}\dots xx\dots x\text{F}\dots x\text{Fx}\dots x.xx.xx\dots x\text{F}\dots x\text{Fxx}\dots xxx\dots x$

configuration usable, but some warnings because of different number of path alternatives

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solution for passenger 1: path: [49, 50, 51, 58, 65, 64], length: 6, rotations: 3, number of paths with length of 6 and perhaps more rotations: 1

solution for passenger 2: path: [21, 22, 29, 36, 43, 50, 51, 58, 65, 64], length: 10, rotations: 5, number of paths with length of 10 and perhaps more rotations: 2

solution for passenger 3: path: [2, 9, 16, 23, 30, 29, 36, 43, 50, 51, 58, 65, 64], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 8

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solution for passenger 1: path: [55, 54, 53, 60, 67, 68], length: 6, rotations: 3, number of paths with length of 6 and perhaps more rotations: 1

solution for passenger 2: path: [27, 26, 33, 40, 47, 54, 53, 60, 67, 68], length: 10, rotations: 5, number of paths with length of 10 and perhaps more rotations: 1

solution for passenger 3: path: [4, 11, 18, 19, 26, 33, 40, 47, 54, 53, 60, 67, 68], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 2

## 16 Fahrauftrag F16 - DennisWeil.Route.4

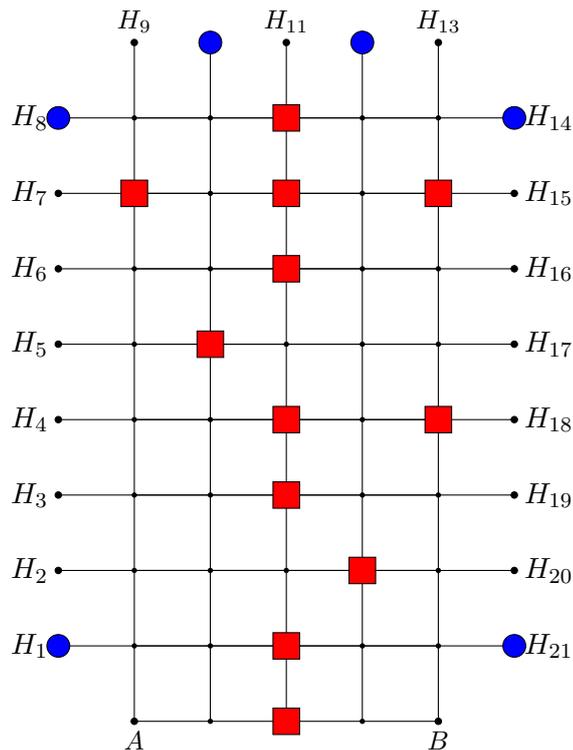


Abbildung 16: Fahrauftrag F16  $xxFx\bar{F}xx\bar{F}..x..Fxx.x.xxx..x..xx.x...xx..x.xxx..x..xx...x\bar{F}..x..F\bar{x}..x..x$

configuration absolut ok

solution for passenger 1: path: [56, 57, 64], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [2, 9, 16, 23, 22, 29, 36, 43, 50, 57, 64], length: 11, rotations: 2, number of paths with length of 11 and perhaps more rotations: 1

solution for passenger 3: path: [7, 8, 9, 16, 23, 22, 29, 36, 43, 50, 57, 64], length: 12, rotations: 3, number of paths with length of 12 and perhaps more rotations: 1

solution for passenger 1: path: [62, 61, 68], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [4, 11, 18, 25, 32, 39, 46, 47, 54, 61, 68], length: 11, rotations: 2, number of paths with length of 11 and perhaps more rotations: 1

solution for passenger 3: path: [13, 12, 11, 18, 25, 32, 39, 46, 47, 54, 61, 68], length: 12, rotations: 3, number of paths with length of 12 and perhaps more rotations: 1

## 17 Fahrauftrag F17 - DennisWeil.Route.5

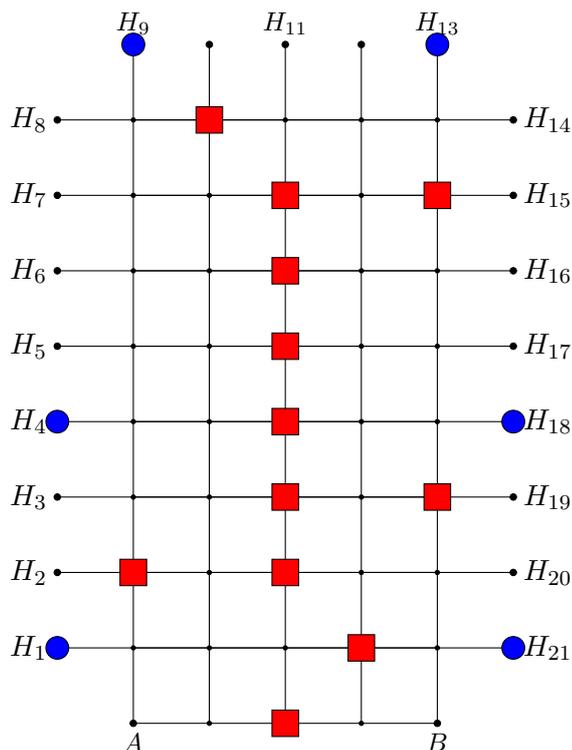


Abbildung 17: Fahrauftrag F17 xFxxxFxx.x...xx..x.xxx..x..xx..x..xF...Fxx..xxxxx..xF...Fx...x

configuration usable, but some warnings because of different number of path alternatives

solution for passenger 1: path: [56, 57, 64], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [35, 36, 37, 44, 51, 58, 65, 64], length: 8, rotations: 3, number of paths with length of 8 and perhaps more rotations: 4

solution for passenger 3: path: [1, 8, 15, 22, 29, 36, 43, 44, 51, 58, 65, 64], length: 12, rotations: 4, number of paths with length of 12 and perhaps more rotations: 10

solution for passenger 1: path: [62, 61, 68], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [41, 40, 39, 46, 53, 54, 61, 68], length: 8, rotations: 3, number of paths with length of 8 and perhaps more rotations: 1

solution for passenger 3: path: [5, 12, 11, 18, 25, 32, 39, 46, 53, 54, 61, 68], length: 12, rotations: 4, number of paths with length of 12 and perhaps more rotations: 1

## 18 Fahrauftrag F18 - DennisWeil.Route.6

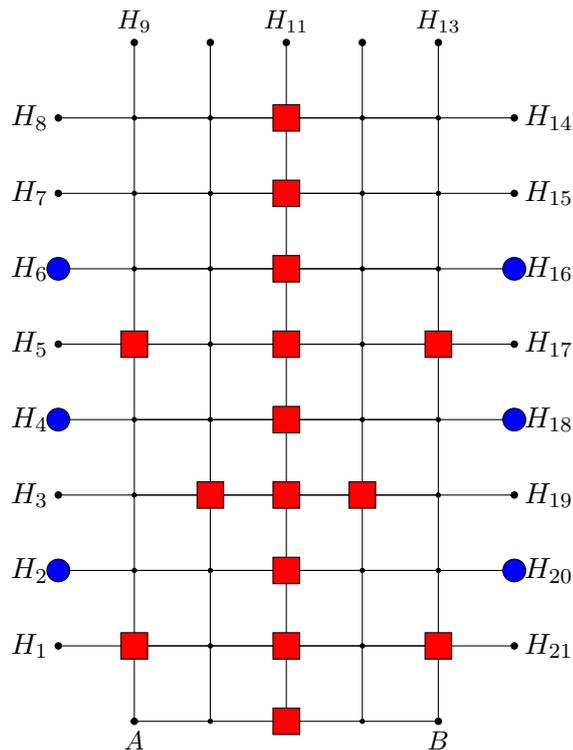


Abbildung 18: Fahrauftrag F18 xxxxxxxx..x..xx..x..xF..x..Fxx.x.xxF..x..Fx.xxx.xF..x..Fxx.x.xxx..x..x

configuration absolut ok

solution for passenger 1: path: [49, 50, 51, 58, 65, 64], length: 6, rotations: 3, number of paths with length of 6 and perhaps more rotations: 1

solution for passenger 2: path: [35, 36, 43, 50, 51, 58, 65, 64], length: 8, rotations: 5, number of paths with length of 8 and perhaps more rotations: 1

solution for passenger 3: path: [21, 22, 23, 30, 37, 36, 43, 50, 51, 58, 65, 64], length: 12, rotations: 7, number of paths with length of 12 and perhaps more rotations: 1

solution for passenger 1: path: [55, 54, 53, 60, 67, 68], length: 6, rotations: 3, number of paths with length of 6 and perhaps more rotations: 1

solution for passenger 2: path: [41, 40, 47, 54, 53, 60, 67, 68], length: 8, rotations: 5, number of paths with length of 8 and perhaps more rotations: 1

solution for passenger 3: path: [27, 26, 25, 32, 39, 40, 47, 54, 53, 60, 67, 68], length: 12, rotations: 7, number of paths with length of 12 and perhaps more rotations: 1

## 19 Fahrauftrag F19 - DennisWeil.Route.7

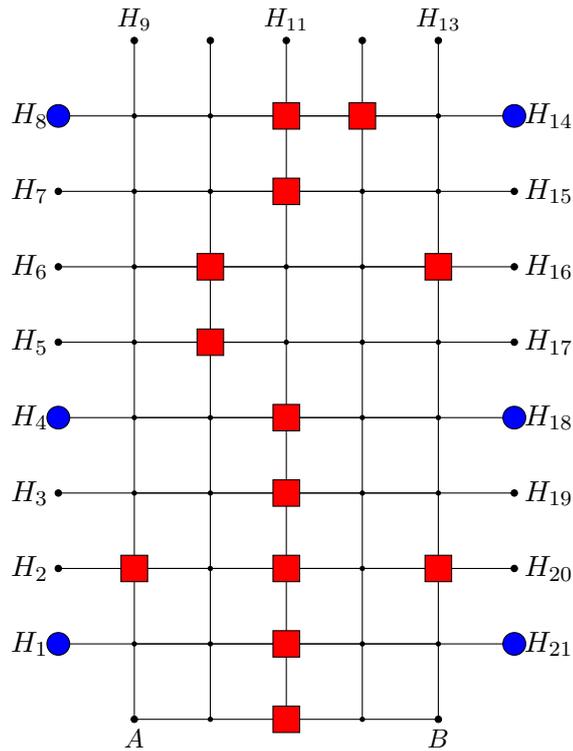


Abbildung 19: Fahrauftrag F19 xxxxxxxxF..xx.Fx..x..xx.x...xxx.x...xF..x..Fx..x...xxx.x.xxF..x..Fx..x..x

configuration usable, but some warnings because of different number of path alternatives

solution for passenger 1: path: [56, 57, 64], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [35, 36, 37, 44, 51, 58, 65, 64], length: 8, rotations: 3, number of paths with length of 8 and perhaps more rotations: 4

solution for passenger 3: path: [7, 8, 15, 22, 29, 36, 43, 44, 51, 58, 65, 64], length: 12, rotations: 5, number of paths with length of 12 and perhaps more rotations: 4

solution for passenger 1: path: [62, 61, 68], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [41, 40, 39, 46, 53, 60, 67, 68], length: 8, rotations: 3, number of paths with length of 8 and perhaps more rotations: 4

solution for passenger 3: path: [13, 12, 19, 18, 25, 32, 39, 46, 53, 60, 67, 68], length: 12, rotations: 5, number of paths with length of 12 and perhaps more rotations: 2

## 20 Fahrauftrag F20 - DennisWeil.Route.8

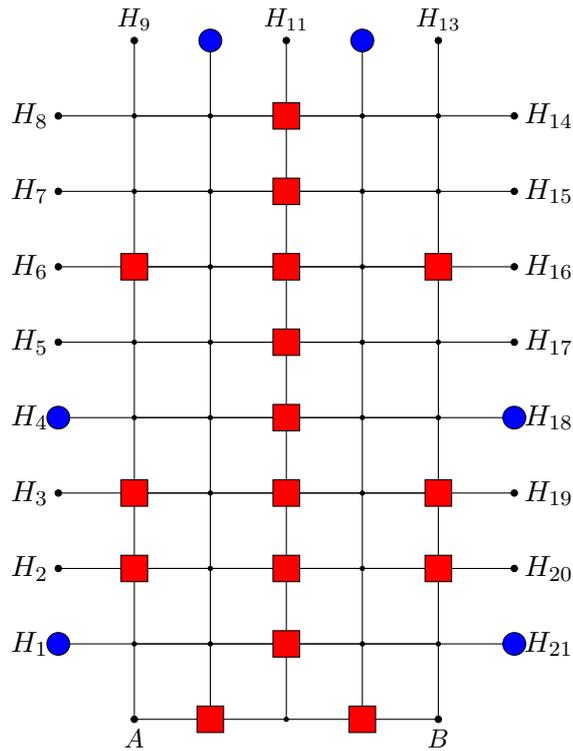


Abbildung 20: Fahrauftrag F20 `xxFxFxxx..x..xx..x..xxx.x.xxx..x..xF..x..Fxx.x.xxxx.x.xxF..x..Fx.x.x.x`

configuration absolut ok

---

solution for passenger 1: path: [56, 57, 64], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [35, 36, 37, 44, 51, 58, 57, 64], length: 8, rotations: 3, number of paths with length of 8 and perhaps more rotations: 1

solution for passenger 3: path: [2, 9, 16, 23, 30, 37, 44, 51, 58, 57, 64], length: 11, rotations: 2, number of paths with length of 11 and perhaps more rotations: 1

---

solution for passenger 1: path: [62, 61, 68], length: 3, rotations: 1, number of paths with length of 3 and perhaps more rotations: 1

solution for passenger 2: path: [41, 40, 39, 46, 53, 60, 61, 68], length: 8, rotations: 3, number of paths with length of 8 and perhaps more rotations: 1

solution for passenger 3: path: [4, 11, 18, 25, 32, 39, 46, 53, 60, 61, 68], length: 11, rotations: 2, number of paths with length of 11 and perhaps more rotations: 1

## 21 Fahrauftrag F21 - DennisWeil.Route.9

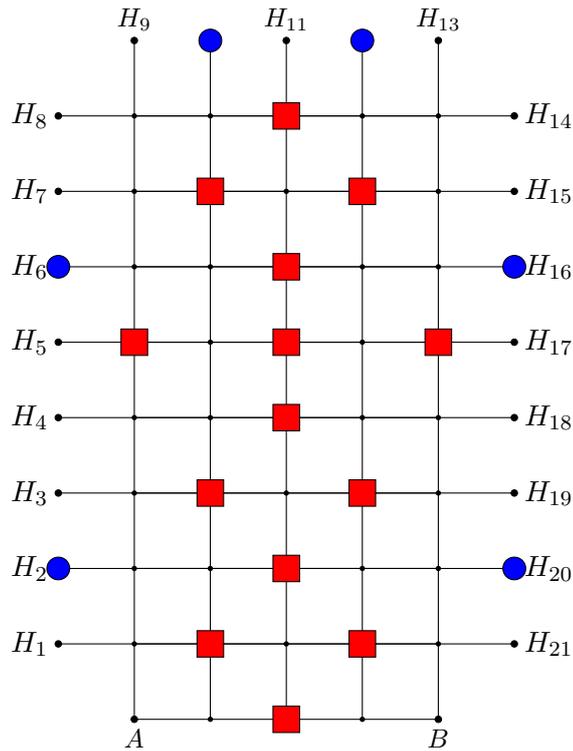


Abbildung 21: Fahrauftrag F21  $xxFxFxxx..x..xx.x.x.xF..x..Fxx.x.xxx..x..xx.x.x.xF..x..Fx.x.x.xx..x..x$

configuration absolut ok

solution for passenger 1: path: [49, 50, 57, 64], length: 4, rotations: 1, number of paths with length of 4 and perhaps more rotations: 1

solution for passenger 2: path: [21, 22, 23, 30, 37, 36, 43, 50, 57, 64], length: 10, rotations: 3, number of paths with length of 10 and perhaps more rotations: 1

solution for passenger 3: path: [2, 9, 8, 15, 22, 23, 30, 37, 36, 43, 50, 57, 64], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 1

solution for passenger 1: path: [55, 54, 61, 68], length: 4, rotations: 1, number of paths with length of 4 and perhaps more rotations: 1

solution for passenger 2: path: [27, 26, 25, 32, 39, 40, 47, 54, 61, 68], length: 10, rotations: 3, number of paths with length of 10 and perhaps more rotations: 1

solution for passenger 3: path: [4, 11, 12, 19, 26, 25, 32, 39, 40, 47, 54, 61, 68], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 1

## 22 Fahrauftrag F22 - DennisWeil.Route.10

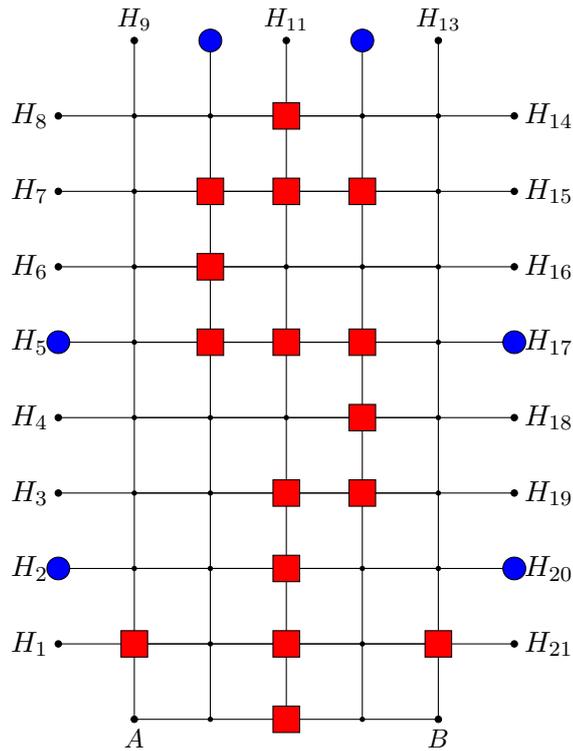


Abbildung 22: Fahrauftrag F22  $xxFx\bar{F}xxx\dots x\dots xx.xxx.xx.x\dots x\bar{F}.xxx.Fx\dots x.xx\dots xx.x\bar{F}.\dots Fxx.x.xxx\dots x\dots x$

configuration usable, but some warnings because of different number of path alternatives

solution for passenger 1: path: [49, 50, 51, 58, 65, 64], length: 6, rotations: 3, number of paths with length of 6 and perhaps more rotations: 1

solution for passenger 2: path: [28, 29, 36, 43, 50, 51, 58, 65, 64], length: 9, rotations: 5, number of paths with length of 9 and perhaps more rotations: 3

solution for passenger 3: path: [2, 9, 8, 15, 22, 29, 36, 43, 50, 51, 58, 65, 64], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 3

solution for passenger 1: path: [55, 54, 53, 60, 67, 68], length: 6, rotations: 3, number of paths with length of 6 and perhaps more rotations: 1

solution for passenger 2: path: [34, 33, 40, 47, 54, 53, 60, 67, 68], length: 9, rotations: 5, number of paths with length of 9 and perhaps more rotations: 1

solution for passenger 3: path: [4, 11, 12, 19, 26, 33, 40, 47, 54, 53, 60, 67, 68], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 1

## 23 Fahrauftrag F23 - Finale 3 VIPs

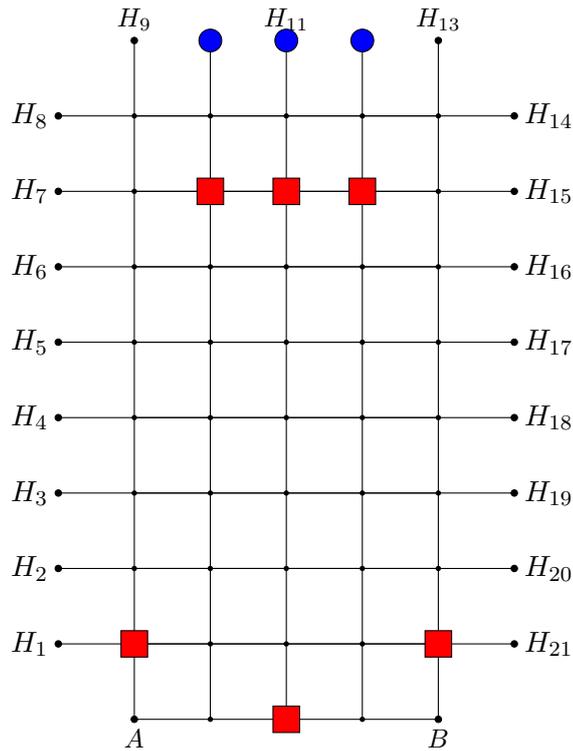


Abbildung 23: Fahrauftrag F23 xxFFFxxx.....xx.xxx.xx.....xx.....xx.....xx.....xx.....xxx...xxx..x..x

configuration absolut ok

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solution for passenger 1: path: [2, 9, 8, 15, 22, 29, 36, 43, 50, 51, 58, 65, 64], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 5

solution for passenger 2: path: [3, 10, 9, 8, 15, 22, 29, 36, 43, 50, 51, 58, 65, 64], length: 14, rotations: 6, number of paths with length of 14 and perhaps more rotations: 5

solution for passenger 3: path: [4, 11, 12, 19, 26, 33, 40, 47, 54, 53, 52, 51, 58, 65, 64], length: 15, rotations: 6, number of paths with length of 15 and perhaps more rotations: 60

---

solution for passenger 1: path: [4, 11, 12, 19, 26, 33, 40, 47, 54, 53, 60, 67, 68], length: 13, rotations: 6, number of paths with length of 13 and perhaps more rotations: 5

solution for passenger 2: path: [3, 10, 11, 12, 19, 26, 33, 40, 47, 54, 53, 60, 67, 68], length: 14, rotations: 6, number of paths with length of 14 and perhaps more rotations: 5

solution for passenger 3: path: [2, 9, 10, 11, 12, 19, 26, 33, 40, 47, 54, 53, 60, 67, 68], length: 15, rotations: 6, number of paths with length of 15 and perhaps more rotations: 60