

# Round 6 – Stuttgart Railroads

Time limit: 40 Minuten

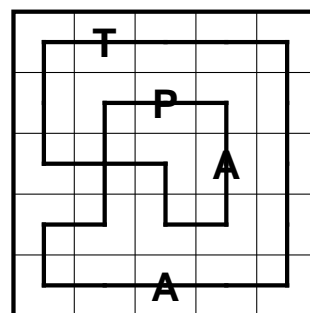
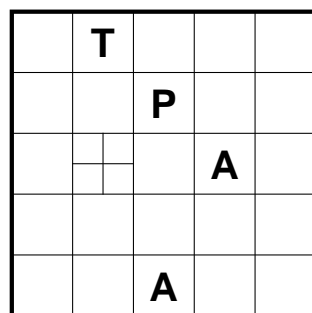
Time Bonus: 1 point per 20 seconds

---

## 6.1 Railroads with letters – 15 Points

Draw a single closed loop into the grid, which moves horizontally and vertically from field to field, and visits every field of the grid exactly once with the exception of some crossings. All crossings are already marked. Fields with letters are railway stations which have to be visited in an order, that you can read the given password along the path. The path moves straight through fields with letters.

Passwort: Tapa

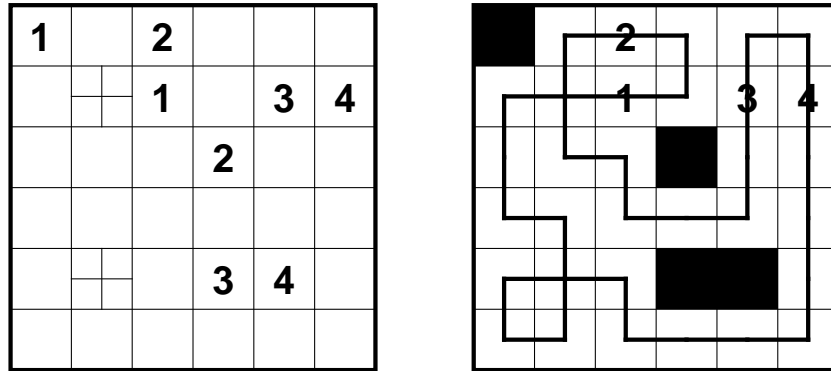


Solution code: Number of turns in each row. The answer for the example would be 22242.

---

## 6.2 Broken Railroads – 25 Points

Blacken some numbers so that exactly one number of each pair of same numbers is blackend. In the remaining fields, draw a single closed loop into the grid, which moves horizontally and vertically from field to field, and visits every field exactly once with the exception of some crossings. All crossings are already marked. Fields with numbers are railway stations which have to be visited in increasing order. The path moves straight through fields with numbers.

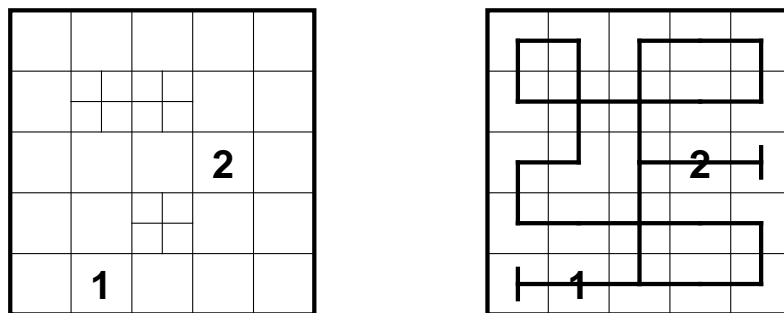


Solution code: Number of turns in each row. The answer for the example would be 422424.

---

## 6.3 Sackbahnhöfe – 25 Points

Draw a loop with some branches into the grid, which visits every field of the grid. The loop crosses itself only at the marked crossings. Fields with numbers are railway stations. The loop branches in the field before the railway station. There may be only one branch in a field. The branch then moves straight through the railway station, and ends in the field after it. The branches with the stations have to be in increasing order along the loop.



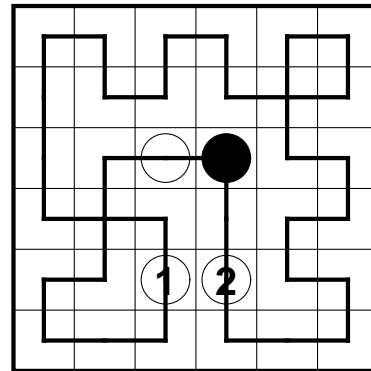
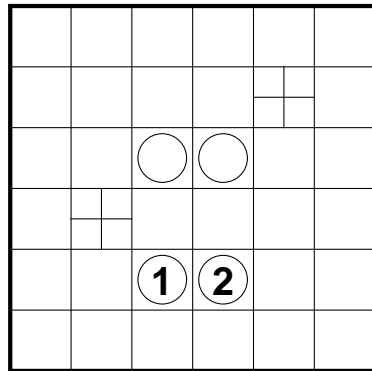
Solution code: Number of turns in each row. The answer for the example would be 42221.

---

## 6.4 Masyu-Railroads – 30 Points

Draw a single closed loop into the grid, which moves horizontally and vertically from field to field, and visits every field of the grid exactly once with the exception of some crossings. All crossings are already marked. Fields with numbers are railway stations which have to be visited in increasing order. The path moves straight through fields with numbers.

In fields with circles, the path follows Masyu rules. White circles may be blackened. The path moves straight through white circles, but has to make a turn immediately before or after the circle. The path makes a turn at black circles, but has to move straight through the field before and after the circle.

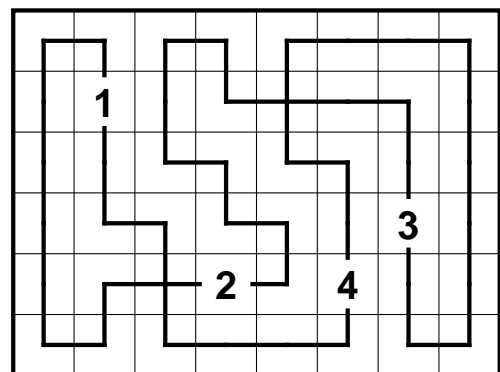
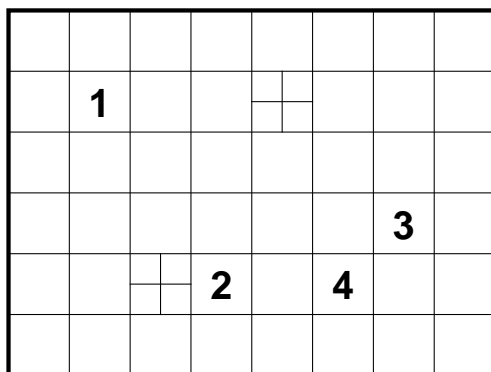


Solution code: Number of turns in each row. The answer for the example would be 644444.

---

## 6.5 Railroads – 30 Points

Draw a single closed loop into the grid, which moves horizontally and vertically from field to field, and visits every field of the grid exactly once with the exception of some crossings. All crossings are already marked. Fields with numbers are railway stations which have to be visited in increasing order. The path moves straight through fields with numbers.

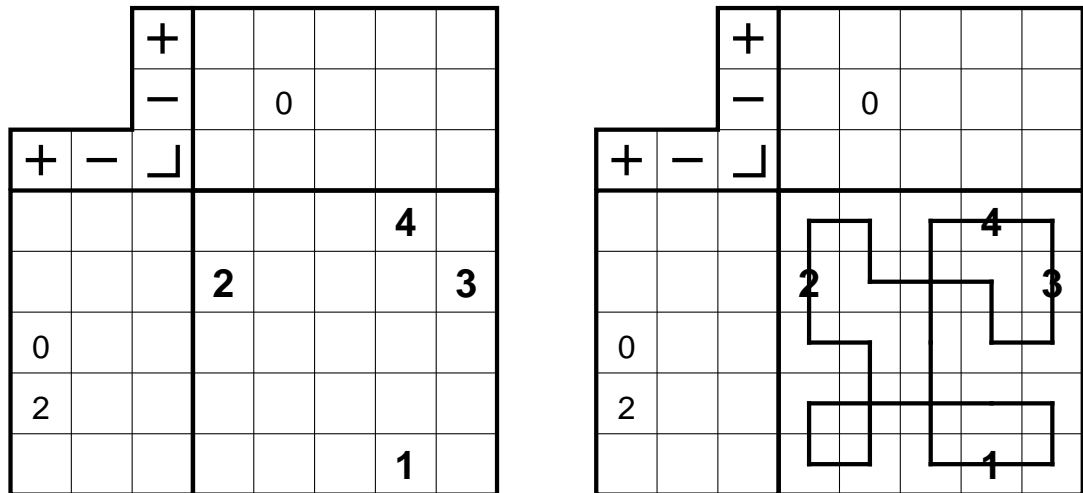


Solution code: Number of turns in each row. The answer for the example would be 624426.

---

## 6.6 Subway-Railroads – 35 Points

Draw a single closed loop into the grid, which moves horizontally and vertically from field to field, and visits every field of the grid exactly once with the exception of some crossings. Fields with numbers are railway stations which have to be visited in increasing order. The path moves straight through fields with numbers. Hints at the border give the number of fields in that row or column, where the loop crosses itself, moves straight or makes a turn.



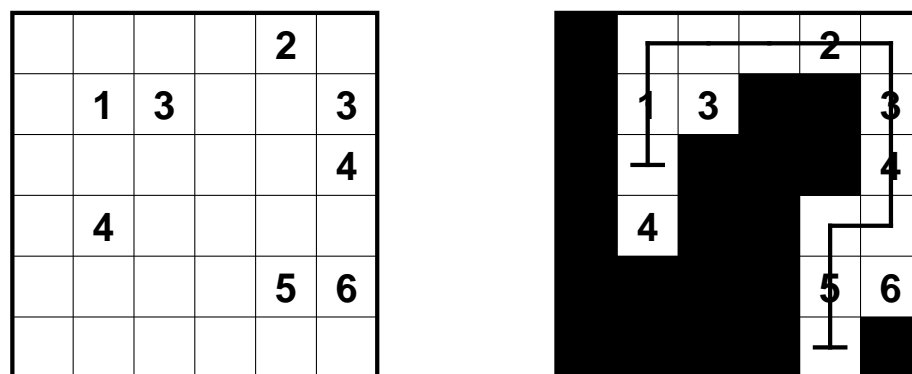
Solution code: Number of turns in each row. The answer for the example would be 42424.

---

## 6.7 Cave-Railroads – 80 Points

Find out, which of the clues belong to a cave puzzle and which belong to a railroads puzzle. Blacken some fields without numbers. The remaining white fields form a single connected set of fields, which doesn't touch itself, not even diagonally (that means all black fields have to be connected to the border). Cave clues give the total number of fields, which can be seen horizontally and vertically from there until you reach a black field or the border of the grid. The field with the clue is included.

Draw a path which moves horizontally and vertically from field to field, and visits every remaining white field except the cave clues. It crosses itself only at the marked crossings. The path starts one field before the railway station "1", moves straight through each railway station and visits the stations in increasing order. It ends one field after the last railway station.



Solution code: First the number of turns in each row. Then the number of fields not used by railroads in each row. The answer for the example would be 200200144455.