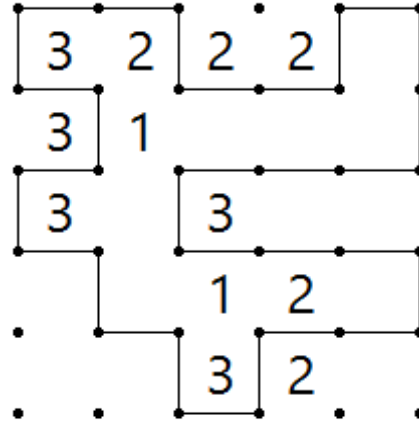
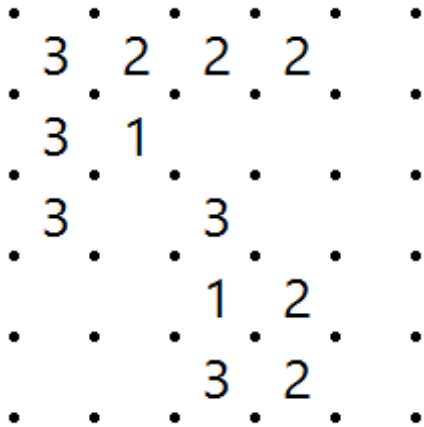


Slitherlink

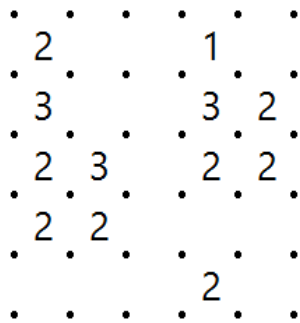
Slitherlink is a puzzle originating from Japan, where it is called Takegaki. A grid is given with some numbers. The goal is to find a cycle on the grid nodes, in such a way that for every cell with a number, the number coincides with the number of the four surrounding edges that are part of the cycle.

Here you see such a puzzle, with the solution on the right:

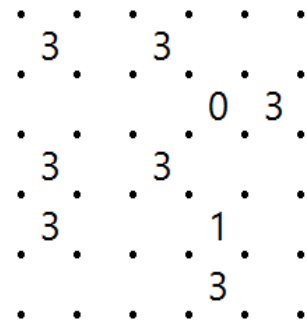


In the rest of this document you find 60 slitherlink puzzles designed by Hans Zantema in October 2020 of increasing size. Each of them has been designed in such a way that it has a unique solution, and all given numbers are essential. At the end the solutions are given.

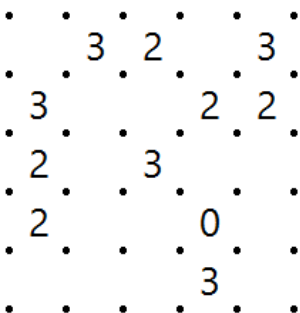
1



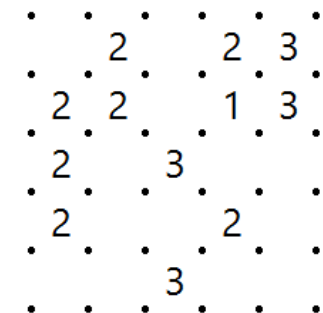
2



3



4



5

```

. . . . .
. 3 . . 3 . 2 .
. . 2 . . . 3 .
. . . . 3 1 .
. 3 . . 1 . . .
. . . 3 2 . . .
. . . . .

```

6

```

. . . . .
. 1 . . 3 . 0 .
. . . . . 2 .
. 3 . . 3 . . .
. . . . 2 . . .
. . 3 . . 3 . .
. . . . .

```

7

```

. . . . .
. 3 . . 3 . . .
. . 1 . . 2 3 .
. . . . . 3 .
. 1 . . . 3 . .
. . . 2 2 . . .
. . . . .

```

8

```

. . . . .
. 3 . . 2 . . .
. 2 3 . . . 2 .
. 2 . . . 1 1 .
. . . 0 . . . .
. 3 . . . 3 . .
. . . . .

```

9

```

. . . . .
. . . . 3 . . .
. 1 0 . . 2 2 .
. . . 3 . . . .
. 3 . . 1 . . .
. . . . . 3 . .
. . . . .

```

10

```

. . . . .
. 3 . . . 3 . .
. 3 . . . 3 . .
. 2 . . 1 . . .
. 2 . . 1 1 3 .
. . . . . 1 . .
. . . . .

```

11

```

. . . . .
. 2 . . . . 1 .
. . 3 2 . . 2 1 .
. 1 . . . . 3 3 .
. 2 3 . . . . .
. 2 2 . . 3 . 3 .
. . . . . 2 . . .
. . . . .

```

12

```

. . . . .
. 3 . . . . .
. . . 2 0 2 2 .
. 3 . . . 3 2 .
. . . . . 1 1 .
. 3 1 . . 2 . 3 .
. . . . . 2 . . .
. . . . .

```

13

.
3	.	.	1	.	.	.
.	.	.	3	2	3	.
2	.	.	.	1	.	.
0	2	.	3	2	.	.
2	2	.	2	.	.	.
.	.	.	1	2	.	.

14

.
3	.	2	3	3	.	.
3	.	.	.	1	.	.
.	.	.	.	1	.	.
.	1	.	3	.	.	.
2	3	.	0	2	.	.

15

.
3	.	.	.	.	.	.
2	.	0	1	.	3	.
3	.	.	.	0	.	.
2	.	.	.	1	3	.
.	3	1	.	.	.	.
.	.	.	3	1	.	.

16

.
2	.	.	.	.	.	.
2	.	3	.	3	3	.
3	.	.	.	2	.	.
3	.	.	.	1	.	.
2	3	.	1	.	3	.
.	.	.	3	.	.	.

17

.
2	3	.	.	.	.	.
.	.	.	3	1	3	.
.
3	.	1	.	2	.	.
1	2	1	3	.	3	.
.

18

.
1	.	.	.	.	.	.
0	.	3	.	.	3	.
0	.	.	.	2	.	.
2	.	.	.	2	.	.
.	.	3	2	.	.	.
3	.	.	3	2	.	.

19

```

. . . . .
. 2 . . . .
. 2 3 . . 1 2 2 .
. 2 . . . . 3 1 .
. . . . . 2 . .
. . 3 1 3 . 3 .
. . . . 2 . . .
. . . . .

```

20

```

. . . . .
. 3 . . . .
. . 2 1 2 0 2 .
. 2 . . . . 2 .
. . . . . 1 1 3 .
. . 3 2 2 . . .
. . . . . 2 . .
. . . . .

```

21

```

. 3 3 . 3 . . . .
. 1 . . . 2 2 2 .
. . . 2 . . 2 2 .
. . . . 3 . 1 .
. . . . . 2 . .
. 3 3 . 3 . . .
. . . 3 . 2 . 1 .
. . . . .

```

22

```

. 3 . . 3 . . . .
. 2 . 3 . . . 2 .
. 3 . . . . . 0 .
. . . . . 2 . . .
. . 3 . . . 0 3 .
. 2 . 1 3 2 . . .
. . . 3 . . . 3 .
. . . . .

```

23

```

. . 3 . 2 . . . .
. 1 . . 1 3 1 1 .
. 2 0 1 . . 1 . .
. . . . . 2 . . .
. . . . . 2 3 .
. 3 1 . 1 . . 3 .
. . . 3 . 1 . . .
. . . . .

```

24

```

. 3 . . . . .
. 2 . . . . 2 2 .
. 3 1 2 . . . 2 .
. . . . . 0 2 3 .
. 2 . . . . . . .
. . 3 . 3 . . . .
. 3 . 3 . 3 . 3 .
. . . . .

```

25

```

. . . . .
. 1 . . . .
. 2 . 3 . . 2 3
. . 2 1 . . 2 3
. . . 1 . . 1 2
. . . . . 2
. 1 1 2 2 . . 2
. . . 3 . . 1 . 3
. . . . .

```

26

```

. . . . .
. 2 . 3 . . .
. 2 . . 3 . 2
. 1 . 3 . 3 .
. . . . 2 2
. 2 . . 2 . .
. 3 2 3 1 . 3
. . . 2 . 3 .
. . . . .

```

27

```

. . . . .
. 2 . . . .
. 3 . . 1 3 . 3
. 2 1 3 . . 3
. . . . 3 2
. 1 . . . 2 .
. 2 2 1 3 .
. . . 3 . 1 3
. . . . .

```

28

```

. . . . .
. 3 . 3 . . .
. 3 . . . 1 3
. 2 . 3 . . 3
. . . . 3
. 2 . 3 1 . 1
. 3 1 2 1 .
. . . 3 . 2 3
. . . . .

```

29

```

. . . . .
. 3 . 2 . 3 .
. 2 . 1 2 . 1 3
. 2 2 2 . . 2 2
. . . . 1 .
. . 1 . . 1 3
. 2 2 3 3 .
. . . 1 . 1 1
. . . . .

```

30

```

. . . . .
. 2 . . 0 . .
. 3 . . . 1 3
. 2 3 1 . . 0
. . . . 0 .
. . 3 . . 0 3
. 3 1 2 2 2 .
. . . . 2 3
. . . . .

```

31

.
0	1	.	.	.	0	.
1	0	.	2	.	.	.
.	.	.	.	0	2	2
1	.	.	3	.	2	.
.	.	2	.	3	.	.
.	.	.	.	.	.	3
3	.	1	2	.	.	.
1	.	2	.	3	.	1

32

.
3	2	.	2	2	.	2
2	.	.	2	.	2	.
2	.	2	2	.	0	2
3	.	.	.	.	.	3
.	.	2	.	2	0	3
2	2	2	.	.	.	3
2	.	.	2	1	.	.
.	3	.	.	2	.	3

33

.
1	.	.	.	3	.	2
1	.	.	3	.	.	.
.	.	.	3	.	.	2
3	.	3	.	.	.	0
.	.	2	.	3	.	.
3	.	.	.	1	.	1
.	.	.	2	.	.	3
.	3	.	.	1	2	.

34

.
.	2	.	3	.	.	3
3	2	.	.	.	.	.
.	.	3	.	.	1	2
3	.	.	.	.	.	1
.	.	.	2	0	2	.
3	.	2	3	.	.	1
.	2	.	.	0	.	.
.	2	.	.	3	2	.

35

.
3	.	.	2	3	.	2
2	2	.	1	.	2	.
2	.	.	3	.	.	2
1	.	.	.	.	.	1
.	.	2	.	2	2	3
3	1	2	.	.	.	1
.	.	2	.	1	.	3
.	2	.	.	3	3	.

36

.
.	2	.	2	2	.	2
3	2	.	1	.	.	1
3	.	2	.	.	.	2
2	.	.	.	.	.	2
2	.	1	.	1	2	3
2	3	2	.	2	.	2
.	.	2	.	1	.	.
.	2	.	.	2	.	3

37

```

. . . . .
3 . . 3 . . 2 . .
. 1 . . 2 . . 1 . .
. 3 . . 2 . . 2 1 3 .
. 2 . 3 . . . . .
. . . 1 . . . 1 . .
. . . 1 . . . 2 0 3 .
. 3 . 3 . . . . .
. . 2 . . . 3 . . 3 .

```

38

```

. . . . .
. . 2 . . 2 . . 3 . .
. 2 . . . 1 . . . 2 .
. 1 . . . 2 . . . 2 2 .
. 3 . . . . . . 3 . .
. . . 3 . . 3 2 . 3 .
. . 2 . . . 2 . . 3 .
. 2 . 1 1 . . . 3 .
. . 3 . . . 3 2 . . .

```

39

```

. . . 3 . . . 1 . . 3 . .
. 2 2 . . 2 . . 1 . . 2 .
. . . 3 . . . 2 3 . .
. 3 . . . . . . . . .
. 1 . 2 . . 1 . . 3 1 .
. 2 . . . . . . . 2 .
. . 2 3 1 2 . . . 3 .
. . 2 . . . 2 2 . . .

```

40

```

. . . 3 2 . . 3 2 . . 2 . .
. 2 . . . 2 . . . 2 . .
. 2 . . 2 0 . . 1 2 2 .
. 1 . . . . . . 2 . .
. . . 1 . 2 1 . 2 . .
. . 2 2 . . . 2 3 3 .
. 3 . 3 . 2 . . . . .
. . 2 . . . . . 3 . .

```

41

```

. . . 1 . . . 3 . . . 3 . .
. 3 3 2 . . . . . 1 . .
. . . . 2 2 . . . . .
. 2 . . . 3 . . 3 1 2 . .
. . . 1 1 . . 1 2 . . 2 .
. . . . 3 . . 3 . . 3 .
. 2 . 3 1 . . . . 1 2 .
. 2 . . 2 2 3 . . . .
. . 2 . . . 1 . . . 0 .

```

42

```

. . . . .
. 3 1 . . 3 . . 2 0 2 . .
. . . . 1 . . 0 . . 0 3 .
. 3 1 . . . . . . . .
. . . . 0 . . . . .
. . 1 1 . . . . 1 1 .
. 2 . . 1 1 . . 3 . 2 .
. 0 . . . 3 3 . . . 0 .

```

43

```

. 3 . . . 3 . . . 3 . .
. 3 1 3 . . . . 1 . .
. . . . . 2 . . 1 2 . .
. 2 1 . 2 . 3 . . 3 . .
. . . 0 1 . 2 . . . 3 .
. 3 . . . . . 0 . . .
. 1 . . . 1 . . . 1 3 .
. 2 . . . 1 2 2 . . . .
. . 2 . . 2 . . 1 . . 3 .

```

44

```

. 3 . . . . . 3 3 . .
. 2 2 3 . . . 3 . . .
. 2 . . . . . . 2 3 . .
. 2 3 3 2 . . . 1 2 . .
. . . 1 3 . 2 2 2 2 . .
. 3 . . . . . 1 2 2 . .
. . . . . 2 . 2 . . . .
. 3 . . 2 0 . 1 . . . .
. . 3 . . . 3 . . . 3 .

```

45

```

. 3 . . . 2 . . . 2 . .
. 2 . 3 3 . . . . 3 . .
. . . 2 . . . 1 1 . 2 .
. 2 . . 3 . . . 2 3 . .
. . . 2 1 . 2 0 . 2 . .
. . . . . 2 3 . . . .
. 3 . 2 1 1 . . . . 3 .
. . . 3 2 2 3 . . . .
. . 2 . . 2 . . . . . 1 .

```

46

```

. . . 2 . . . 2 . . . 2 .
. 3 . 3 . . . . . 1 . .
. . . . . 3 2 3 . . 3 . .
. 2 3 . . 1 . . . 2 1 . .
. . . 1 2 . . 2 3 2 . .
. 3 . . . 3 . 2 . . . .
. . . 2 . . . 1 1 1 3 .
. . . . 2 2 1 . . . .
. 3 3 . . . 2 . . . 3 .

```

47

```

. . . 2 . 3 2 . . 3 2 . .
. 3 . 3 . . . . . . . .
. . . . . 3 . 1 . 2 . .
. 1 0 . . . 3 . 0 1 . .
. . . . 3 . 0 1 0 2 . .
. . . . . 1 . . . . 3 .
. . . 1 . . . . . 3 .
. 1 . 1 3 1 1 . . . .
. . 1 2 . . . 2 . . 2 .

```

48

```

. 3 . . . 2 . . . 3 . .
. . 1 1 . 1 . . . 1 . .
. 3 . . . 2 . 0 . 3 . .
. 3 1 . . 1 . . . 1 . .
. . . 1 1 . 0 1 . . . .
. . 0 . . . . . . 2 . .
. 2 . 0 1 . . . 3 2 . .
. 2 . 2 . 1 . . . . .
. . . . 2 . 3 . . . 3 .

```


49

```

. . . . . 2 . . . . .
. 2 1 2 . . 3 . 3 . .
. . . 2 . 2 . . . 2 .
3 2 . 2 . . . . .
. . . 2 0 . 0 1 . 2 .
3 . . . . . 2 3 3 .
. . 2 2 1 . . . . 2 .
. . 1 2 0 . 2 . . . .
. . 2 . . . 3 . . 3 .

```

50

```

. 1 . . . . 3 . . . . .
. . 3 3 . . 3 . . . .
. . . . . 1 . 2 1 2 .
3 2 . 2 . . . 2 . .
. . . 2 2 . 1 2 2 .
3 . . 3 . 3 . . . .
1 . 1 2 1 . . . 3 .
. . . 2 . 2 2 . . .
. . 2 . 2 . 2 . . 3 .

```

51

```

3 . 2 . . . . . 3 . .
. 3 . . 2 . . . 1 . .
3 . . . . 2 3 1 . .
. 2 . . . 3 . 3 . 3 .
. 3 . 2 . . . 1 . .
1 . 3 . . 2 . 2 . 2 .
. . . . . 1 . . . .
2 . . 2 1 1 . 3 3 . .
. 2 3 . . 2 . 1 . .
. . 2 . 3 . 3 . . 2 .

```

52

```

. . . . . . . . . . .
3 1 . 2 . 2 . 1 2 2 .
. . . 2 . 2 1 . 2 .
. . 0 2 1 . 2 . 3 . 3 .
. . . . . 2 . . . 2 .
3 . . 2 . . . . . 2 .
. . . 2 . . . 1 . 3 .
3 0 2 . 3 . 3 . 3 .
. . . . . 2 . 3 .
. . 1 3 . 3 . 1 . 3 .

```

53

```

. . . . . . . . . . .
2 . . 1 1 . 1 2 . . .
1 . . . 1 . . 2 1 . .
. 1 . 3 . 3 . . . 2 .
3 . . 1 . . 2 0 2 2 .
. . . 2 . . . . .
2 . . . . 3 . . . 2 .
. 2 1 2 . . . 2 3 .
. . . 1 . . 2 2 2 .
3 2 3 2 3 1 2 2 2 3 .

```

54

```

. . . . . . . . . . .
. . . 0 3 . 2 . . . .
. . . . . 3 . 3 . . .
. . . . . . 1 2 1 1 3 .
3 1 1 2 0 . . 2 . .
. . . . . 1 0 . 0 .
1 . . . 0 . . . . .
. . . 1 . . . . . .
1 3 2 3 2 1 1 0 . .

```

55

```

. . . . .
. 2 0 1 0 1 . 1 0 1 1 .
. . . . .
. 2 . . . 1 . 3 . .
. 2 . . . . 0 . . .
. 2 . . . . . 1 . .
. . 3 . . . 0 . 1 .
. 2 2 . 1 . . . 1 .
. 2 . . 3 . . 0 . 1 .
. 3 . 2 . 3 . . . 3 3 .

```

56

```

. . . . .
. 2 0 1 . 3 . 1 1 . 3 .
. . . . 1 . 1 . . . .
. 3 . . . . 1 1 . 2 .
. . 3 . 0 0 2 . . 1 3 .
. . . . . . 0 . . .
. 3 . . . . . . . 3 .
. . 1 . . . . . 0 . .
. . . . 3 . . . . 2 .
. 3 2 3 . 3 3 . 3 2 2 .

```

57

```

. . . . .
. 2 1 . 2 . 1 2 . 2 .
. . . 2 2 . . . 1 2 .
. 2 1 . 2 3 . 2 2 . 2 .
. . 1 2 2 . . 2 . 2 .
. . 2 3 . 3 . . 3 .
. . 2 . . . . 1 2 .
. . 3 . . . 2 . 3 .
. . . 2 2 . . 2 2 1 2 .
. 3 2 3 2 3 2 3 . 2 2 .

```

58

```

. . . . .
. . 3 1 . . . 2 0 . .
. . . . 1 3 . . . .
. . 3 1 2 . . . 3 . .
. . . . . 1 . . . 0 .
. 3 2 . 2 1 . 3 2 . .
. . . . . . 1 3 . .
. 1 3 . . 1 3 . . . .
. . . . 1 0 0 . . .
. . 3 3 2 . 0 . . . .

```

59

```

. . . . .
. 3 1 . 2 . 2 3 . . .
. . . 2 . . . . 1 . .
. . 2 . . 2 . . . 1 . .
. 3 . . . 1 2 . 2 . .
. . 2 1 1 . 0 . 1 2 1 .
. . . . 1 2 2 . 2 2 . 1 .
. . . 2 . 1 . 3 . . .
. 1 . 3 3 3 . 0 . 1 0 .

```

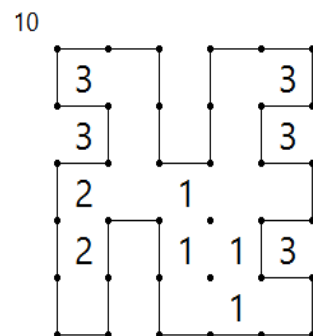
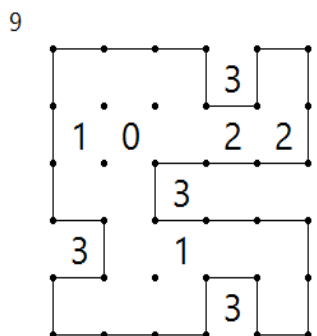
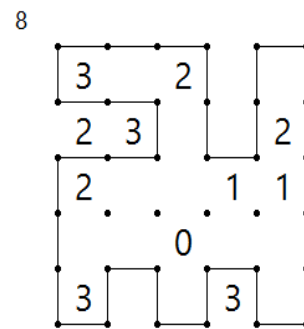
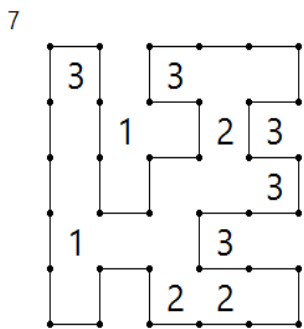
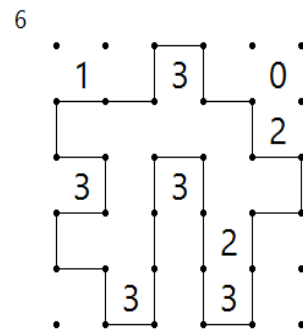
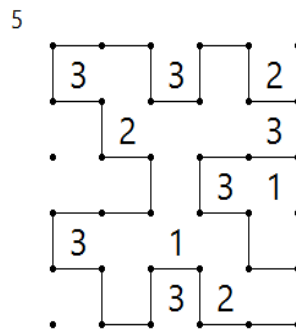
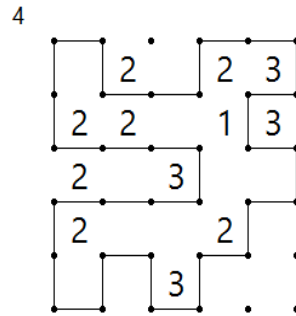
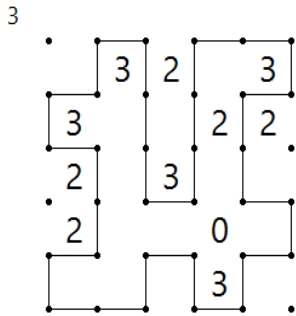
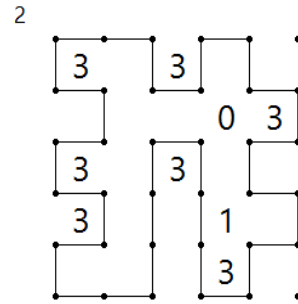
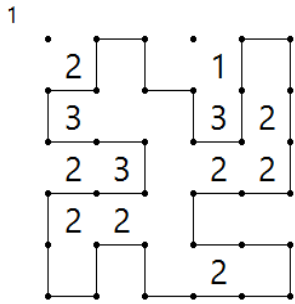
60

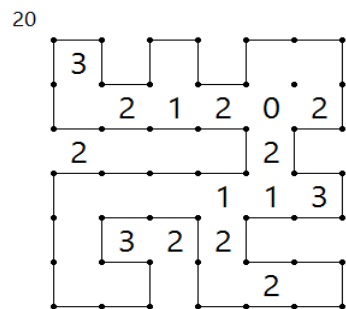
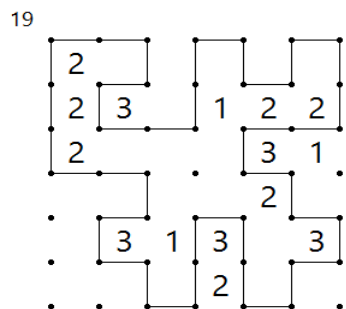
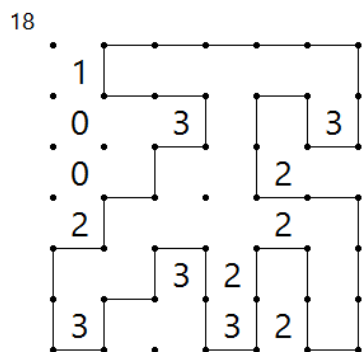
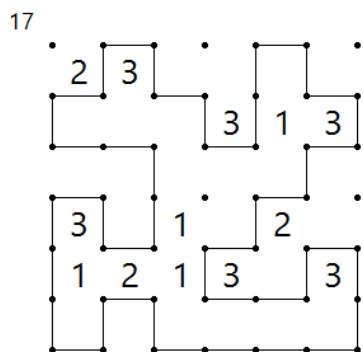
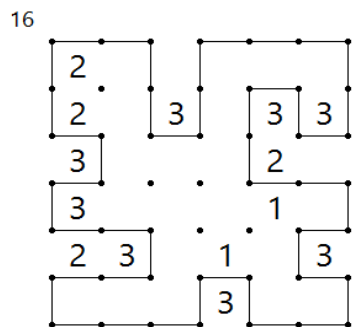
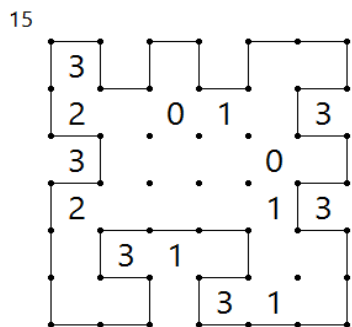
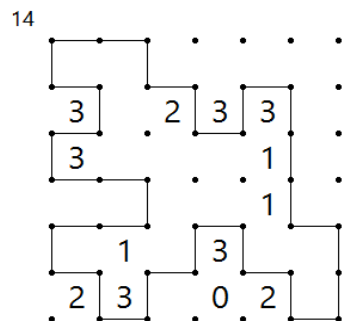
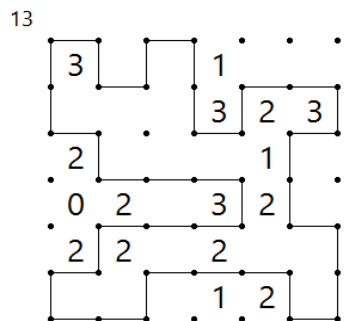
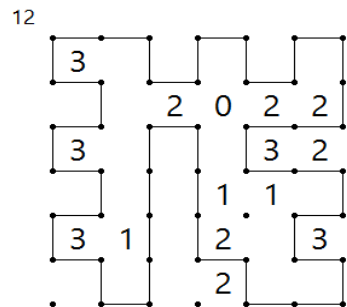
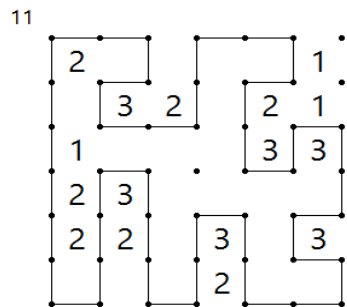
```

. . . . .
. 3 1 2 1 . 2 . 1 2 2 .
. . . . 1 1 . . . 2 .
. . 2 . 1 1 . . 0 3 .
. 2 . . 3 . . . . .
. 3 . 1 . 0 . . . 1 2 .
. . . . . . . . 3 .
. 3 0 . . 1 2 2 1 . .
. . . . 1 2 . 1 . .
. 0 . 3 1 2 3 . 1 3 .

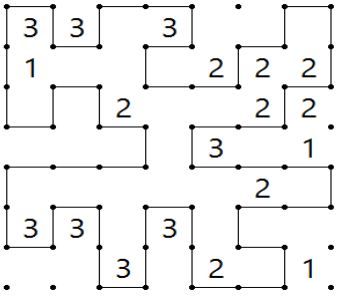
```

Solutions

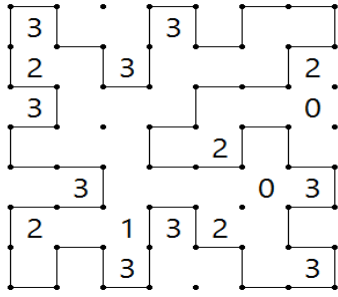




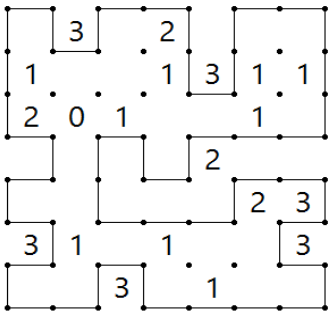
21



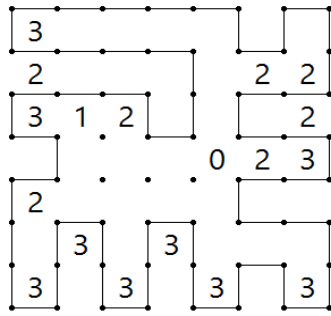
22



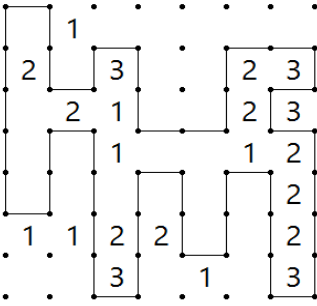
23



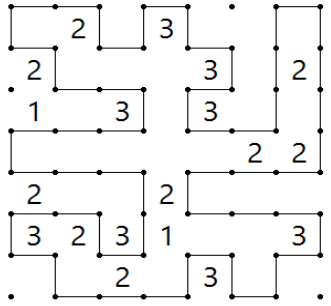
24



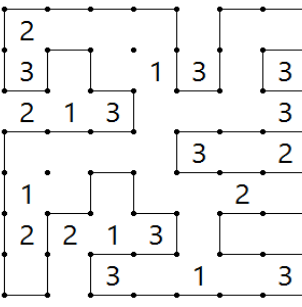
25



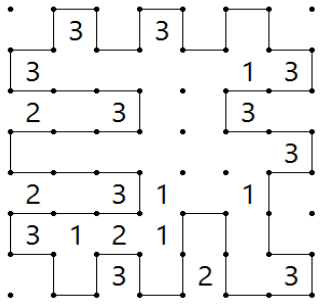
26



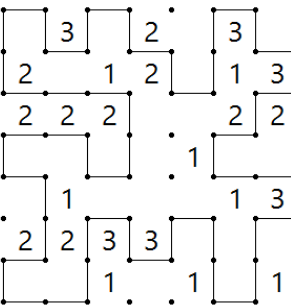
27



28



29



30

