**Input:**

79

32 32

5 1

6 2

6 28

7 3

7 27

8 26

9 5

10 6

10 24

11 7

11 23

12 0

12 1

12 3

12 4

12 6

12 8

12 10

12 11

12 13

12 15

12 16

12 17

12 20

12 22

12 24

12 25

12 26

12 27

12 28

12 31

14 10

14 20

15 11

15 19

16 0

16 12

16 18

17 1

17 17

18 3

18 14

19 15

20 4

20 5

21 6

21 7

21 13

21 17

22 7

22 8

22 18

23 10

23 11

23 19

24 10

24 12

24 20

25 9

25 14

25 21

26 8

26 13

26 14

26 15

26 22

27 7

27 16

27 23

28 17

28 24

29 5

29 17

29 18

29 19

29 25

30 4

30 19

31 21

**Output-1:**

3

79

32 32

5 1 1

6 2 1

6 28 3

7 3 1

7 27 3

8 26 3

9 5 1

10 6 1

10 24 3

11 7 1

11 23 3

12 0 1

12 1 1

12 3 1

12 4 1

12 6 1

12 8 2

12 10 2

12 11 2

12 13 2

12 15 3

12 16 3

12 17 3

12 20 3

12 22 3

12 24 3

12 25 3

12 26 3

12 27 3

12 28 3

12 31 3

14 10 1

14 20 3

15 11 1

15 19 3

16 0 2

16 12 1

16 18 3

17 1 2

17 17 3

18 3 2

18 14 3

19 15 3

20 4 2

20 5 2

21 6 2

21 7 3

21 13 1

21 17 1

22 7 3

22 8 3

22 18 1

23 10 3

23 11 3

23 19 1

24 10 3

24 12 3

24 20 1

25 9 3

25 14 1

25 21 1

26 8 3

26 13 1

26 14 1

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27 7 3

27 16 1

27 23 1

28 17 1

28 24 1

29 5 3

29 17 1

29 18 1

29 19 1

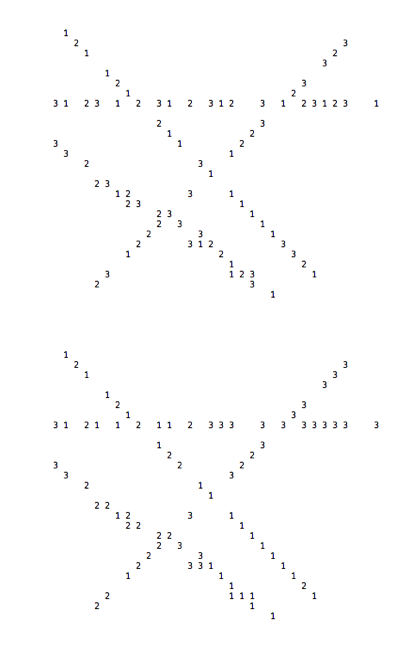
29 25 1

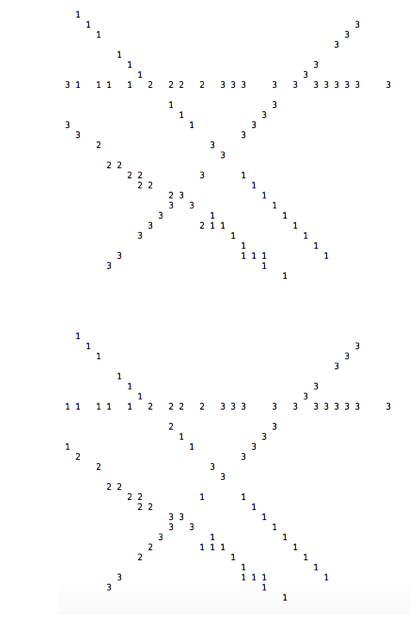
30 4 3

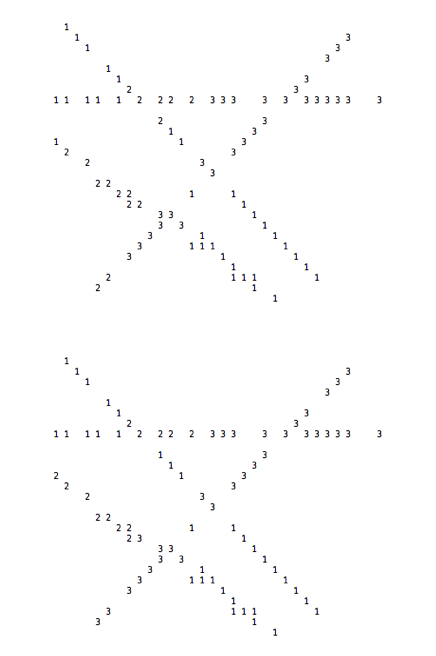
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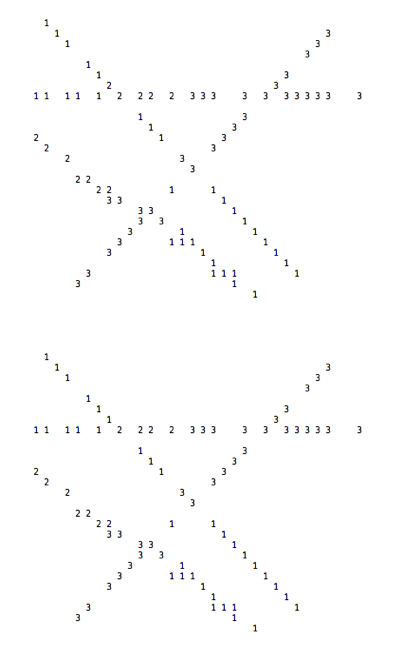
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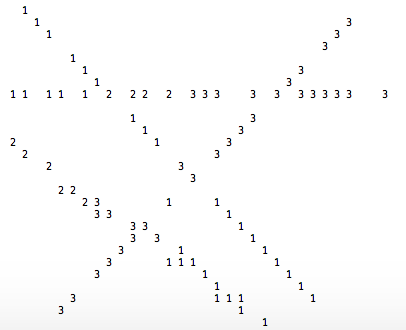
**Output-2:**

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