

There are 3 3x3 matrices with nonnegative integer entries and all row sums 1, up to row and column permutation:

1  
0 0 1  
0 0 1  
0 0 1

2  
0 0 1  
0 0 1  
0 1 0

3  
0 0 1  
0 1 0  
1 0 0

There are 14 3x3 matrices with nonnegative integer entries and all row sums 2, up to row and column permutation:

1  
0 0 2  
0 0 2  
0 0 2

2  
0 0 2  
0 0 2  
0 1 1

3  
0 0 2  
0 0 2  
0 2 0

4  
0 0 2  
0 0 2  
1 1 0

5  
0 0 2  
0 1 1  
0 1 1

6  
0 0 2  
0 1 1  
0 2 0

7  
0 0 2  
0 1 1

1 0 1

8

0 0 2  
0 1 1  
1 1 0

9

0 0 2  
0 1 1  
2 0 0

10

0 0 2  
0 2 0  
2 0 0

11

0 0 2  
1 1 0  
1 1 0

12

0 1 1  
0 1 1  
0 1 1

13

0 1 1  
0 1 1  
1 0 1

14

0 1 1  
1 0 1  
1 1 0

There are 44 3x3 matrices with nonnegative integer entries and all row sums 3, up to row and column permutation:

1

0 0 3  
0 0 3  
0 0 3

2

0 0 3  
0 0 3  
0 1 2

3

0 0 3  
0 0 3  
0 2 1

4  
0 0 3  
0 0 3  
0 3 0

5  
0 0 3  
0 0 3  
1 1 1

6  
0 0 3  
0 0 3  
1 2 0

7  
0 0 3  
0 1 2  
0 1 2

8  
0 0 3  
0 1 2  
0 2 1

9  
0 0 3  
0 1 2  
0 3 0

10  
0 0 3  
0 1 2  
1 0 2

11  
0 0 3  
0 1 2  
1 1 1

12  
0 0 3  
0 1 2  
1 2 0

13  
0 0 3  
0 1 2  
2 0 1

14  
0 0 3  
0 1 2  
2 1 0

15  
0 0 3

0 1 2  
3 0 0

16  
0 0 3  
0 2 1  
0 2 1

17  
0 0 3  
0 2 1  
1 1 1

18  
0 0 3  
0 2 1  
1 2 0

19  
0 0 3  
0 2 1  
2 0 1

20  
0 0 3  
0 2 1  
2 1 0

21  
0 0 3  
0 2 1  
3 0 0

22  
0 0 3  
0 3 0  
1 1 1

23  
0 0 3  
0 3 0  
3 0 0

24  
0 0 3  
1 1 1  
1 1 1

25  
0 0 3  
1 1 1  
1 2 0

26  
0 0 3  
1 2 0  
1 2 0

27

0 0 3  
1 2 0  
2 1 0

28

0 1 2  
0 1 2  
0 1 2

29

0 1 2  
0 1 2  
0 2 1

30

0 1 2  
0 1 2  
1 0 2

31

0 1 2  
0 1 2  
1 1 1

32

0 1 2  
0 1 2  
1 2 0

33

0 1 2  
0 1 2  
2 0 1

34

0 1 2  
0 1 2  
2 1 0

35

0 1 2  
0 2 1  
1 0 2

36

0 1 2  
0 2 1  
1 1 1

37

0 1 2  
0 2 1  
2 0 1

38

```
0 1 2
1 0 2
1 1 1
```

39

```
0 1 2
1 0 2
1 2 0
```

40

```
0 1 2
1 1 1
1 1 1
```

41

```
0 1 2
1 1 1
1 2 0
```

42

```
0 1 2
1 1 1
2 1 0
```

43

```
0 1 2
1 2 0
2 0 1
```

44

```
1 1 1
1 1 1
1 1 1
```

There are 129 3x3 matrices with nonnegative integer entries and all row sums 4, up to row and column permutation:

```
1
0 0 4
0 0 4
0 0 4
```

```
2
0 0 4
0 0 4
0 1 3
```

```
3
0 0 4
0 0 4
0 2 2
```

```
4
0 0 4
0 0 4
```

0 3 1

5

0 0 4

0 0 4

0 4 0

6

0 0 4

0 0 4

1 1 2

7

0 0 4

0 0 4

1 2 1

8

0 0 4

0 0 4

1 3 0

9

0 0 4

0 0 4

2 2 0

10

0 0 4

0 1 3

0 1 3

11

0 0 4

0 1 3

0 2 2

12

0 0 4

0 1 3

0 3 1

13

0 0 4

0 1 3

0 4 0

14

0 0 4

0 1 3

1 0 3

15

0 0 4

0 1 3

1 1 2

16

0 0 4  
0 1 3  
1 2 1

17

0 0 4  
0 1 3  
1 3 0

18

0 0 4  
0 1 3  
2 0 2

19

0 0 4  
0 1 3  
2 1 1

20

0 0 4  
0 1 3  
2 2 0

21

0 0 4  
0 1 3  
3 0 1

22

0 0 4  
0 1 3  
3 1 0

23

0 0 4  
0 1 3  
4 0 0

24

0 0 4  
0 2 2  
0 2 2

25

0 0 4  
0 2 2  
0 3 1

26

0 0 4  
0 2 2  
0 4 0

27

0 0 4



0 2 2  
1 1 2

28  
0 0 4  
0 2 2  
1 2 1

29  
0 0 4  
0 2 2  
1 3 0

30  
0 0 4  
0 2 2  
2 0 2

31  
0 0 4  
0 2 2  
2 1 1

32  
0 0 4  
0 2 2  
2 2 0

33  
0 0 4  
0 2 2  
3 0 1

34  
0 0 4  
0 2 2  
3 1 0

35  
0 0 4  
0 2 2  
4 0 0

36  
0 0 4  
0 3 1  
0 3 1

37  
0 0 4  
0 3 1  
1 1 2

38  
0 0 4  
0 3 1  
1 2 1

39

0 0 4  
0 3 1  
1 3 0

40

0 0 4  
0 3 1  
2 1 1

41

0 0 4  
0 3 1  
2 2 0

42

0 0 4  
0 3 1  
3 0 1

43

0 0 4  
0 3 1  
3 1 0

44

0 0 4  
0 3 1  
4 0 0

45

0 0 4  
0 4 0  
1 1 2

46

0 0 4  
0 4 0  
2 1 1

47

0 0 4  
0 4 0  
4 0 0

48

0 0 4  
1 1 2  
1 1 2

49

0 0 4  
1 1 2  
1 2 1

50

0 0 4  
1 1 2  
1 3 0

51  
0 0 4  
1 1 2  
2 2 0

52  
0 0 4  
1 2 1  
1 2 1

53  
0 0 4  
1 2 1  
1 3 0

54  
0 0 4  
1 2 1  
2 1 1

55  
0 0 4  
1 2 1  
2 2 0

56  
0 0 4  
1 2 1  
3 1 0

57  
0 0 4  
1 3 0  
1 3 0

58  
0 0 4  
1 3 0  
2 2 0

59  
0 0 4  
1 3 0  
3 1 0

60  
0 0 4  
2 2 0  
2 2 0

61  
0 1 3  
0 1 3

0 1 3

62

0 1 3

0 1 3

0 2 2

63

0 1 3

0 1 3

0 3 1

64

0 1 3

0 1 3

1 0 3

65

0 1 3

0 1 3

1 1 2

66

0 1 3

0 1 3

1 2 1

67

0 1 3

0 1 3

1 3 0

68

0 1 3

0 1 3

2 0 2

69

0 1 3

0 1 3

2 1 1

70

0 1 3

0 1 3

2 2 0

71

0 1 3

0 1 3

3 0 1

72

0 1 3

0 1 3

3 1 0

73

0 1 3  
0 2 2  
0 2 2

74

0 1 3  
0 2 2  
0 3 1

75

0 1 3  
0 2 2  
1 0 3

76

0 1 3  
0 2 2  
1 1 2

77

0 1 3  
0 2 2  
1 2 1

78

0 1 3  
0 2 2  
1 3 0

79

0 1 3  
0 2 2  
2 0 2

80

0 1 3  
0 2 2  
2 1 1

81

0 1 3  
0 2 2  
2 2 0

82

0 1 3  
0 2 2  
3 0 1

83

0 1 3  
0 2 2  
3 1 0

84

0 1 3

0 3 1  
1 0 3

85  
0 1 3  
0 3 1  
1 1 2

86  
0 1 3  
0 3 1  
2 0 2

87  
0 1 3  
0 3 1  
2 1 1

88  
0 1 3  
0 3 1  
3 0 1

89  
0 1 3  
1 0 3  
1 1 2

90  
0 1 3  
1 0 3  
1 2 1

91  
0 1 3  
1 0 3  
1 3 0

92  
0 1 3  
1 0 3  
2 2 0

93  
0 1 3  
1 1 2  
1 1 2

94  
0 1 3  
1 1 2  
1 2 1

95  
0 1 3  
1 1 2  
1 3 0

96

0 1 3  
1 1 2  
2 0 2

97

0 1 3  
1 1 2  
2 1 1

98

0 1 3  
1 1 2  
2 2 0

99

0 1 3  
1 1 2  
3 0 1

100

0 1 3  
1 1 2  
3 1 0

101

0 1 3  
1 2 1  
1 2 1

102

0 1 3  
1 2 1  
2 0 2

103

0 1 3  
1 2 1  
2 1 1

104

0 1 3  
1 2 1  
2 2 0

105

0 1 3  
1 2 1  
3 0 1

106

0 1 3  
1 2 1  
3 1 0

107

0 1 3  
1 3 0  
2 0 2

108

0 1 3  
1 3 0  
3 0 1

109

0 1 3  
2 0 2  
2 0 2

110

0 1 3  
2 0 2  
2 1 1

111

0 1 3  
2 0 2  
2 2 0

112

0 1 3  
2 0 2  
3 1 0

113

0 1 3  
2 1 1  
2 1 1

114

0 1 3  
2 1 1  
2 2 0

115

0 1 3  
2 2 0  
2 2 0

116

0 2 2  
0 2 2  
0 2 2

117

0 2 2  
0 2 2  
1 1 2

118

0 2 2  
0 2 2



2 0 2

119

0 2 2

0 2 2

2 1 1

120

0 2 2

1 1 2

1 1 2

121

0 2 2

1 1 2

1 2 1

122

0 2 2

1 1 2

2 0 2

123

0 2 2

1 1 2

2 1 1

124

0 2 2

1 1 2

2 2 0

125

0 2 2

2 0 2

2 2 0

126

0 2 2

2 1 1

2 1 1

127

1 1 2

1 1 2

1 1 2

128

1 1 2

1 1 2

1 2 1

129

1 1 2

1 2 1

2 1 1

