

1 caps verified

88 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 0. 1. 0.]
[0. 1. 0. 0.]
[1. 0. 0. 0.]]

cap becomes:

{(1.0, 1.0, 0.0, 1.0), (1.0, 0.0, 0.0, 0.0), (2.0, 1.0, 2.0, 2.0), (0.0, 0.0, 0.0, 1.0),
(0.0, 2.0, 2.0, 1.0), (2.0, 1.0, 1.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0,
0.0, 0.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 1]) array([1, 0, 0, 0])
array([1, 1, 0, 1]) array([2, 1, 1, 1]) array([2, 1, 2, 2])]

cap has been removed from list

2 caps verified

87 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 0. 1. 0.]

[1. 0. 0. 0.]
[0. 1. 0. 0.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (1.0, 1.0, 1.0, 0.0), (2.0, 1.0, 2.0, 2.0), (0.0, 0.0, 0.0, 1.0),
(2.0, 1.0, 1.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0,
2.0, 1.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 1, 2]) array([1, 0, 0, 0])
array([1, 1, 1, 0]) array([2, 1, 1, 1]) array([2, 1, 2, 2])]
cap has been removed from list

3 caps verified

86 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 0. 1. 2.]
[0. 1. 0. 0.]
[1. 0. 0. 2.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (2.0, 2.0, 1.0, 2.0), (0.0, 0.0, 0.0, 1.0), (0.0, 2.0, 2.0, 1.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 2.0, 0.0), (1.0,
2.0, 0.0, 2.0)}

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([0, 2, 2, 1]) array([1, 0, 0, 0])  
array([1, 2, 0, 2]) array([2, 2, 1, 2]) array([2, 2, 2, 0])]
```

cap has been removed from list

4 caps verified

85 caps remaining

initial cap:

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])  
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]
```

cap is being multiplied by

```
[[0. 0. 0. 1.]  
[0. 0. 1. 2.]  
[1. 0. 0. 2.]  
[0. 1. 0. 0.]]
```

cap becomes:

```
{(1.0, 2.0, 2.0, 0.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (2.0, 2.0, 2.0, 1.0),  
(2.0, 2.0, 0.0, 2.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0,  
2.0, 1.0, 2.0)}
```

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([0, 2, 1, 2]) array([1, 0, 0, 0])  
array([1, 2, 2, 0]) array([2, 2, 0, 2]) array([2, 2, 2, 1])]
```

cap has been removed from list

5 caps verified

84 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 0. 2. 0.]
[0. 1. 2. 0.]
[1. 0. 1. 0.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (0.0, 2.0, 2.0, 1.0), (0.0, 0.0, 0.0, 1.0), (2.0, 2.0, 0.0, 2.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (1.0, 2.0, 2.0, 2.0), (2.0,
2.0, 1.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 1]) array([1, 0, 0, 0])
array([1, 2, 2, 2]) array([2, 2, 0, 2]) array([2, 2, 1, 0])]

cap has been removed from list

6 caps verified

83 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 0. 2. 0.]
[1. 0. 1. 0.]
[0. 1. 2. 0.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0),
(0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 2.0, 0.0), (0.0, 2.0, 1.0, 2.0), (1.0, 2.0, 2.0, 2.0), (2.0,
2.0, 0.0, 1.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 1, 2]) array([1, 0, 0, 0])
array([1, 2, 2, 2]) array([2, 2, 0, 1]) array([2, 2, 2, 0])]
cap has been removed from list

7 caps verified

82 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 0. 2. 1.]
[0. 1. 2. 1.]
[1. 0. 1. 1.]]

cap becomes:

{(2.0, 1.0, 0.0, 2.0), (2.0, 1.0, 2.0, 1.0), (1.0, 0.0, 0.0, 0.0), (0.0, 2.0, 2.0, 1.0),
(0.0, 0.0, 0.0, 1.0), (1.0, 1.0, 1.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0,
0.0, 0.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 1]) array([1, 0, 0, 0])
array([1, 1, 1, 1]) array([2, 1, 0, 2]) array([2, 1, 2, 1])]

cap has been removed from list

8 caps verified

81 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 0. 2. 1.]
[1. 0. 1. 1.]
[0. 1. 2. 1.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (2.0, 1.0, 1.0, 2.0), (0.0, 0.0, 0.0, 1.0), (1.0, 1.0, 1.0, 1.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0, 2.0, 1.0, 2.0), (2.0,
1.0, 2.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 1, 2]) array([1, 0, 0, 0])
array([1, 1, 1, 1]) array([2, 1, 1, 2]) array([2, 1, 2, 0])]

cap has been removed from list

9 caps verified

80 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 1. 0. 0.]
[0. 0. 1. 0.]
[1. 0. 0. 0.]]

cap becomes:

{(1.0, 0.0, 1.0, 1.0), (1.0, 0.0, 0.0, 0.0), (2.0, 2.0, 1.0, 2.0), (0.0, 0.0, 0.0, 1.0),
(0.0, 2.0, 2.0, 1.0), (2.0, 1.0, 1.0, 1.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0,
0.0, 0.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 1]) array([1, 0, 0, 0])
array([1, 0, 1, 1]) array([2, 1, 1, 1]) array([2, 2, 1, 2])]

cap has been removed from list

10 caps verified

79 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])

array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 1. 0. 0.]
[0. 0. 1. 2.]
[1. 0. 0. 2.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (2.0, 1.0, 2.0, 2.0), (0.0, 0.0, 0.0, 1.0), (0.0, 2.0, 2.0, 1.0),
(0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 2.0, 0.0), (1.0,
0.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 1]) array([1, 0, 0, 0])
array([1, 0, 2, 2]) array([2, 1, 2, 2]) array([2, 2, 2, 0])]

cap has been removed from list

11 caps verified

78 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 1. 0. 0.]
[1. 0. 0. 0.]
[0. 0. 1. 0.]]

cap becomes:

{(1.0, 0.0, 1.0, 1.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (2.0, 1.0, 1.0, 1.0),
(2.0, 2.0, 2.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0,
2.0, 1.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 1, 2]) array([1, 0, 0, 0])
array([1, 0, 1, 1]) array([2, 1, 1, 1]) array([2, 2, 2, 1])]

cap has been removed from list

12 caps verified

77 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 1. 0. 0.]
[1. 0. 0. 2.]
[0. 0. 1. 2.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (2.0, 1.0, 2.0, 2.0), (0.0, 0.0, 0.0, 1.0), (2.0, 2.0, 0.0, 2.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0, 2.0, 1.0, 2.0), (1.0,
0.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])]

array([0, 1, 0, 0]) array([0, 2, 1, 2]) array([1, 0, 0, 0])
array([1, 0, 2, 2]) array([2, 1, 2, 2]) array([2, 2, 0, 2])]
cap has been removed from list

13 caps verified

76 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 1. 2. 0.]
[0. 0. 2. 0.]
[1. 0. 1. 0.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (0.0, 2.0, 2.0, 1.0), (0.0, 0.0, 0.0, 1.0), (2.0, 0.0, 2.0, 2.0),
(0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (1.0, 2.0, 2.0, 2.0), (2.0,
1.0, 2.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 1]) array([1, 0, 0, 0])
array([1, 2, 2, 2]) array([2, 0, 2, 2]) array([2, 1, 2, 0])]
cap has been removed from list

14 caps verified

75 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 1. 2. 0.]
[1. 0. 1. 0.]
[0. 0. 2. 0.]]

cap becomes:

{(2.0, 1.0, 0.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (2.0, 0.0, 2.0, 2.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0, 2.0, 1.0, 2.0), (1.0,
2.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 1, 2]) array([1, 0, 0, 0])
array([1, 2, 2, 2]) array([2, 0, 2, 2]) array([2, 1, 0, 2])]

cap has been removed from list

15 caps verified

74 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]

[0. 1. 2. 1.]
[0. 0. 2. 1.]
[1. 0. 1. 1.]]

cap becomes:

{(2.0, 0.0, 1.0, 2.0), (2.0, 2.0, 1.0, 1.0), (1.0, 0.0, 0.0, 0.0), (0.0, 2.0, 2.0, 1.0),
(0.0, 0.0, 0.0, 1.0), (1.0, 1.0, 1.0, 1.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0,
0.0, 0.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 1]) array([1, 0, 0, 0])
array([1, 1, 1, 1]) array([2, 0, 1, 2]) array([2, 2, 1, 1])]

cap has been removed from list

16 caps verified

73 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 1. 2. 1.]
[1. 0. 1. 1.]
[0. 0. 2. 1.]]

cap becomes:

{(2.0, 2.0, 1.0, 1.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (1.0, 1.0, 1.0, 1.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0, 2.0, 1.0, 2.0), (2.0,
0.0, 2.0, 1.0)}

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([0, 2, 1, 2]) array([1, 0, 0, 0])  
array([1, 1, 1, 1]) array([2, 0, 2, 1]) array([2, 2, 1, 1])]
```

cap has been removed from list

17 caps verified

72 caps remaining

initial cap:

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])  
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]
```

cap is being multiplied by

```
[[0. 0. 0. 1.]  
[0. 2. 0. 0.]  
[0. 2. 1. 0.]  
[1. 1. 0. 0.]]
```

cap becomes:

```
{(1.0, 0.0, 1.0, 1.0), (2.0, 1.0, 2.0, 1.0), (1.0, 0.0, 0.0, 0.0), (0.0, 2.0, 2.0, 1.0),  
(0.0, 0.0, 0.0, 1.0), (2.0, 2.0, 0.0, 2.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0,  
0.0, 0.0, 0.0)}
```

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([0, 2, 2, 1]) array([1, 0, 0, 0])  
array([1, 0, 1, 1]) array([2, 1, 2, 1]) array([2, 2, 0, 2])]
```

cap has been removed from list

18 caps verified

71 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]

[0. 2. 0. 0.]

[0. 2. 1. 2.]

[1. 1. 0. 2.]]

cap becomes:

{(2.0, 1.0, 0.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 2.0, 2.0, 1.0), (0.0, 0.0, 0.0, 1.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 1.0, 0.0), (1.0,
0.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 1]) array([1, 0, 0, 0])
array([1, 0, 2, 2]) array([2, 1, 0, 2]) array([2, 2, 1, 0])]

cap has been removed from list

19 caps verified

70 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

```
[[0. 0. 0. 1.]  
 [0. 2. 0. 0.]  
 [1. 1. 0. 0.]  
 [0. 2. 1. 0.]]
```

cap becomes:

```
{(1.0, 0.0, 1.0, 1.0), (1.0, 0.0, 0.0, 0.0), (2.0, 1.0, 1.0, 2.0), (0.0, 0.0, 0.0, 1.0),  
 (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 2.0, 0.0), (0.0,  
 2.0, 1.0, 2.0)}
```

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
 array([0, 1, 0, 0]) array([0, 2, 1, 2]) array([1, 0, 0, 0])  
 array([1, 0, 1, 1]) array([2, 1, 1, 2]) array([2, 2, 2, 0])]
```

cap has been removed from list

20 caps verified

69 caps remaining

initial cap:

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
 array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])  
 array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]
```

cap is being multiplied by

```
[[0. 0. 0. 1.]  
 [0. 2. 0. 0.]  
 [1. 1. 0. 2.]  
 [0. 2. 1. 2.]]
```

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0),
(0.0, 0.0, 0.0, 0.0), (0.0, 2.0, 1.0, 2.0), (2.0, 2.0, 0.0, 1.0), (2.0, 1.0, 2.0, 0.0), (1.0,
0.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 1, 2]) array([1, 0, 0, 0])
array([1, 0, 2, 2]) array([2, 1, 2, 0]) array([2, 2, 0, 1])]
cap has been removed from list

21 caps verified

68 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 2. 1. 0.]
[0. 2. 0. 0.]
[1. 1. 0. 0.]]

cap becomes:

{(1.0, 1.0, 0.0, 1.0), (2.0, 2.0, 1.0, 1.0), (1.0, 0.0, 0.0, 0.0), (0.0, 2.0, 2.0, 1.0),
(0.0, 0.0, 0.0, 1.0), (2.0, 0.0, 2.0, 2.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0,
0.0, 0.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 1]) array([1, 0, 0, 0])
array([1, 1, 0, 1]) array([2, 0, 2, 2]) array([2, 2, 1, 1])]

cap has been removed from list

22 caps verified

67 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 2. 1. 0.]
[1. 1. 0. 0.]
[0. 2. 0. 0.]]

cap becomes:

{(2.0, 2.0, 1.0, 1.0), (1.0, 0.0, 0.0, 0.0), (1.0, 1.0, 1.0, 0.0), (0.0, 0.0, 0.0, 1.0),
(2.0, 0.0, 2.0, 2.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0,
2.0, 1.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 1, 2]) array([1, 0, 0, 0])
array([1, 1, 1, 0]) array([2, 0, 2, 2]) array([2, 2, 1, 1])]

cap has been removed from list

23 caps verified

66 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])

array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 2. 1. 2.]
[0. 2. 0. 0.]
[1. 1. 0. 2.]]

cap becomes:

{(2.0, 0.0, 1.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 2.0, 2.0, 1.0), (0.0, 0.0, 0.0, 1.0),
(0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 1.0, 2.0, 0.0), (1.0,
2.0, 0.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 1]) array([1, 0, 0, 0])
array([1, 2, 0, 2]) array([2, 0, 1, 2]) array([2, 1, 2, 0])]

cap has been removed from list

24 caps verified

65 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[0. 2. 1. 2.]
[1. 1. 0. 2.]

[0. 2. 0. 0.]

cap becomes:

{(2.0, 1.0, 0.0, 2.0), (1.0, 2.0, 2.0, 0.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0, 2.0, 1.0, 2.0), (2.0,
0.0, 2.0, 1.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 1, 2]) array([1, 0, 0, 0])
array([1, 2, 2, 0]) array([2, 0, 2, 1]) array([2, 1, 0, 2])]

cap has been removed from list

25 caps verified

64 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[1. 0. 0. 0.]
[0. 0. 1. 0.]
[0. 1. 0. 0.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (1.0, 1.0, 1.0, 0.0), (2.0, 2.0, 1.0, 2.0), (0.0, 0.0, 0.0, 1.0),
(2.0, 1.0, 1.0, 1.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0,
1.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 2, 2]) array([1, 0, 0, 0])
array([1, 1, 1, 0]) array([2, 1, 1, 1]) array([2, 2, 1, 2])]
cap has been removed from list

26 caps verified

63 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[1. 0. 0. 0.]
[0. 1. 0. 0.]
[0. 0. 1. 0.]]

cap becomes:

{(1.0, 1.0, 0.0, 1.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (2.0, 1.0, 1.0, 1.0),
(2.0, 2.0, 2.0, 1.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0,
1.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 2, 2]) array([1, 0, 0, 0])
array([1, 1, 0, 1]) array([2, 1, 1, 1]) array([2, 2, 2, 1])]
cap has been removed from list

27 caps verified

62 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[1. 0. 0. 0.]
[1. 0. 1. 0.]
[1. 1. 0. 0.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (2.0, 1.0, 2.0, 2.0), (0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 1.0, 1.0),
(1.0, 1.0, 2.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0,
2.0, 0.0, 1.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 1, 1]) array([1, 0, 0, 0])
array([1, 1, 2, 1]) array([2, 1, 2, 2]) array([2, 2, 0, 1])]

cap has been removed from list

28 caps verified

61 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]

[1. 0. 0. 0.]
[1. 1. 0. 0.]
[1. 0. 1. 0.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (2.0, 1.0, 2.0, 2.0), (0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 1.0, 1.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (1.0, 1.0, 1.0, 2.0), (2.0,
2.0, 1.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 1, 1]) array([1, 0, 0, 0])
array([1, 1, 1, 2]) array([2, 1, 2, 2]) array([2, 2, 1, 0])]

cap has been removed from list

29 caps verified

60 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[1. 0. 0. 2.]
[0. 0. 1. 2.]
[0. 1. 0. 0.]]

cap becomes:

{(1.0, 2.0, 2.0, 0.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (2.0, 2.0, 2.0, 1.0),
(2.0, 0.0, 2.0, 2.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0,
1.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([0, 1, 2, 2]) array([1, 0, 0, 0])  
array([1, 2, 2, 0]) array([2, 0, 2, 2]) array([2, 2, 2, 1])]
```

cap has been removed from list

30 caps verified

59 caps remaining

initial cap:

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])  
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]
```

cap is being multiplied by

```
[[0. 0. 0. 1.]  
[1. 0. 0. 2.]  
[0. 1. 0. 0.]  
[0. 0. 1. 2.]]
```

cap becomes:

```
{(1.0, 0.0, 0.0, 0.0), (2.0, 2.0, 1.0, 2.0), (0.0, 0.0, 0.0, 1.0), (2.0, 0.0, 2.0, 2.0),  
(0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0, 1.0, 2.0, 2.0), (1.0,  
2.0, 0.0, 2.0)}
```

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([0, 1, 2, 2]) array([1, 0, 0, 0])  
array([1, 2, 0, 2]) array([2, 0, 2, 2]) array([2, 2, 1, 2])]
```

cap has been removed from list

31 caps verified

58 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]

[1. 0. 0. 2.]

[1. 0. 1. 1.]

[1. 1. 0. 2.]]

cap becomes:

{(1.0, 2.0, 1.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 1.0, 1.0),
(2.0, 0.0, 2.0, 2.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0,
2.0, 1.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 1, 1]) array([1, 0, 0, 0])
array([1, 2, 1, 2]) array([2, 0, 2, 2]) array([2, 2, 1, 0])]

cap has been removed from list

32 caps verified

57 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

```
[[0. 0. 0. 1.]  
 [1. 0. 0. 2.]  
 [1. 1. 0. 2.]  
 [1. 0. 1. 1.]]
```

cap becomes:

```
{(1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 1.0, 1.0), (1.0, 2.0, 2.0, 1.0),  
 (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (2.0, 0.0, 2.0, 2.0), (0.0, 0.0, 0.0, 0.0), (2.0,  
 2.0, 0.0, 1.0)}
```

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
 array([0, 1, 0, 0]) array([0, 1, 1, 1]) array([1, 0, 0, 0])  
 array([1, 2, 2, 1]) array([2, 0, 2, 2]) array([2, 2, 0, 1])]
```

cap has been removed from list

33 caps verified

56 caps remaining

initial cap:

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
 array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])  
 array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]
```

cap is being multiplied by

```
[[0. 0. 0. 1.]  
 [1. 0. 1. 0.]  
 [0. 0. 2. 0.]  
 [0. 1. 2. 0.]]
```

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0),
(0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 2.0, 0.0), (0.0, 1.0, 2.0, 2.0), (1.0, 2.0, 2.0, 2.0), (2.0,
0.0, 2.0, 1.0)}

which is equal to the following cap that's still on the list

array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 2, 2]) array([1, 0, 0, 0])
array([1, 2, 2, 2]) array([2, 0, 2, 1]) array([2, 2, 2, 0])

cap has been removed from list

34 caps verified

55 caps remaining



initial cap:

array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])

cap is being multiplied by

[[0. 0. 0. 1.]
[1. 0. 1. 0.]
[0. 1. 2. 0.]
[0. 0. 2. 0.]]

cap becomes:

{(2.0, 0.0, 1.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (2.0, 2.0, 0.0, 2.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0, 1.0, 2.0, 2.0), (1.0,
2.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 2, 2]) array([1, 0, 0, 0])

array([1, 2, 2, 2]) array([2, 0, 1, 2]) array([2, 2, 0, 2])
cap has been removed from list

35 caps verified

54 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[1. 0. 1. 0.]
[1. 0. 0. 0.]
[1. 1. 0. 0.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (2.0, 2.0, 1.0, 2.0), (0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 1.0, 1.0),
(1.0, 2.0, 1.0, 1.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0,
0.0, 2.0, 1.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 1, 1]) array([1, 0, 0, 0])
array([1, 2, 1, 1]) array([2, 0, 2, 1]) array([2, 2, 1, 2])]

cap has been removed from list

36 caps verified

53 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[1. 0. 1. 0.]
[1. 1. 0. 0.]
[1. 0. 0. 0.]]

cap becomes:

{(2.0, 0.0, 1.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 1.0, 1.0, 1.0), (1.0, 2.0, 1.0, 1.0),
(2.0, 2.0, 2.0, 1.0), (0.0, 0.0, 0.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0,
0.0, 0.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 1, 1]) array([1, 0, 0, 0])
array([1, 2, 1, 1]) array([2, 0, 1, 2]) array([2, 2, 2, 1])]

cap has been removed from list

37 caps verified

52 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[1. 0. 1. 1.]
[0. 0. 2. 1.]

[0. 1. 2. 1.]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (2.0, 1.0, 1.0, 2.0), (0.0, 0.0, 0.0, 1.0), (1.0, 1.0, 1.0, 1.0),
(0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0, 1.0, 2.0, 2.0), (2.0,
2.0, 1.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 2, 2]) array([1, 0, 0, 0])
array([1, 1, 1, 1]) array([2, 1, 1, 2]) array([2, 2, 1, 0])]

cap has been removed from list

38 caps verified

51 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[1. 0. 1. 1.]
[0. 1. 2. 1.]
[0. 0. 2. 1.]]

cap becomes:

{(2.0, 1.0, 2.0, 1.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (1.0, 1.0, 1.0, 1.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0, 1.0, 2.0, 2.0), (2.0,
2.0, 0.0, 1.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 2, 2]) array([1, 0, 0, 0])
array([1, 1, 1, 1]) array([2, 1, 2, 1]) array([2, 2, 0, 1]))]
cap has been removed from list

39 caps verified

50 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2]))]

cap is being multiplied by

[[0. 0. 0. 1.]
[1. 0. 1. 1.]
[1. 0. 0. 2.]
[1. 1. 0. 2.]]

cap becomes:

{(1.0, 1.0, 2.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 1.0, 1.0),
(2.0, 2.0, 0.0, 2.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0,
1.0, 2.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 1, 1]) array([1, 0, 0, 0])
array([1, 1, 2, 2]) array([2, 1, 2, 0]) array([2, 2, 0, 2]))]
cap has been removed from list

40 caps verified

49 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[1. 0. 1. 1.]
[1. 1. 0. 2.]
[1. 0. 0. 2.]]

cap becomes:

{(1.0, 1.0, 2.0, 2.0), (2.0, 1.0, 0.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 1.0, 1.0, 1.0),
(0.0, 0.0, 0.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0,
2.0, 2.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 1, 1]) array([1, 0, 0, 0])
array([1, 1, 2, 2]) array([2, 1, 0, 2]) array([2, 2, 2, 0])]

cap has been removed from list

41 caps verified

48 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]

[1. 1. 0. 0.]
[0. 2. 0. 0.]
[0. 2. 1. 0.]]

cap becomes:

{(1.0, 1.0, 0.0, 1.0), (1.0, 0.0, 0.0, 0.0), (2.0, 1.0, 1.0, 2.0), (0.0, 0.0, 0.0, 1.0),
(0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 2.0, 0.0), (0.0,
1.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 2, 2]) array([1, 0, 0, 0])
array([1, 1, 0, 1]) array([2, 1, 1, 2]) array([2, 2, 2, 0])]

cap has been removed from list

42 caps verified

47 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[1. 1. 0. 0.]
[0. 2. 1. 0.]
[0. 2. 0. 0.]]

cap becomes:

{(2.0, 1.0, 2.0, 1.0), (1.0, 0.0, 0.0, 0.0), (1.0, 1.0, 1.0, 0.0), (0.0, 0.0, 0.0, 1.0),
(2.0, 2.0, 0.0, 2.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0,
1.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([0, 1, 2, 2]) array([1, 0, 0, 0])  
array([1, 1, 1, 0]) array([2, 1, 2, 1]) array([2, 2, 0, 2])]
```

cap has been removed from list

43 caps verified

46 caps remaining

initial cap:

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])  
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]
```

cap is being multiplied by

```
[[0. 0. 0. 1.]  
[1. 1. 0. 0.]  
[1. 0. 0. 0.]  
[1. 0. 1. 0.]]
```

cap becomes:

```
{(1.0, 0.0, 0.0, 0.0), (2.0, 2.0, 1.0, 2.0), (0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 1.0, 1.0),  
(0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (1.0, 1.0, 1.0, 2.0), (2.0,  
1.0, 2.0, 0.0)}
```

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([0, 1, 1, 1]) array([1, 0, 0, 0])  
array([1, 1, 1, 2]) array([2, 1, 2, 0]) array([2, 2, 1, 2])]
```

cap has been removed from list

44 caps verified

45 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]

[1. 1. 0. 0.]

[1. 0. 1. 0.]

[1. 0. 0. 0.]]

cap becomes:

{(2.0, 1.0, 0.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 1.0, 1.0, 1.0), (1.0, 1.0, 2.0, 1.0),
(2.0, 2.0, 2.0, 1.0), (0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0,
0.0, 0.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 1, 1]) array([1, 0, 0, 0])
array([1, 1, 2, 1]) array([2, 1, 0, 2]) array([2, 2, 2, 1])]

cap has been removed from list

45 caps verified

44 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

```
[[0. 0. 0. 1.]  
 [1. 1. 0. 2.]  
 [0. 2. 0. 0.]  
 [0. 2. 1. 2.]]
```

cap becomes:

```
{(1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0),  
 (0.0, 0.0, 0.0, 0.0), (0.0, 1.0, 2.0, 2.0), (2.0, 0.0, 2.0, 1.0), (2.0, 2.0, 1.0, 0.0), (1.0,  
 2.0, 0.0, 2.0)}
```

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
 array([0, 1, 0, 0]) array([0, 1, 2, 2]) array([1, 0, 0, 0])  
 array([1, 2, 0, 2]) array([2, 0, 2, 1]) array([2, 2, 1, 0])]
```

cap has been removed from list

46 caps verified

43 caps remaining

initial cap:

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
 array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])  
 array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]
```

cap is being multiplied by

```
[[0. 0. 0. 1.]  
 [1. 1. 0. 2.]  
 [0. 2. 1. 2.]  
 [0. 2. 0. 0.]]
```

cap becomes:

{(2.0, 0.0, 1.0, 2.0), (1.0, 2.0, 2.0, 0.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0),
(0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (0.0, 1.0, 2.0, 2.0), (2.0,
2.0, 0.0, 1.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 2, 2]) array([1, 0, 0, 0])
array([1, 2, 2, 0]) array([2, 0, 1, 2]) array([2, 2, 0, 1])]

cap has been removed from list

47 caps verified

42 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[1. 1. 0. 2.]
[1. 0. 0. 2.]
[1. 0. 1. 1.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 1.0, 1.0), (1.0, 2.0, 2.0, 1.0),
(0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (2.0, 2.0, 0.0, 2.0), (0.0, 0.0, 0.0, 0.0), (2.0,
0.0, 2.0, 1.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 1, 1]) array([1, 0, 0, 0])
array([1, 2, 2, 1]) array([2, 0, 2, 1]) array([2, 2, 0, 2])]

cap has been removed from list

48 caps verified

41 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 0. 1.]
[1. 1. 0. 2.]
[1. 0. 1. 1.]
[1. 0. 0. 2.]]

cap becomes:

{(1.0, 2.0, 1.0, 2.0), (2.0, 0.0, 1.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 1.0, 1.0, 1.0),
(0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0,
2.0, 2.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 1, 1, 1]) array([1, 0, 0, 0])
array([1, 2, 1, 2]) array([2, 0, 1, 2]) array([2, 2, 2, 0])]

cap has been removed from list

49 caps verified

40 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])

array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]
[0. 0. 0. 1.]
[0. 1. 0. 0.]
[1. 0. 0. 0.]]

cap becomes:

{(1.0, 1.0, 0.0, 1.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (1.0, 2.0, 1.0, 1.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 0.0, 2.0, 1.0), (1.0,
2.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 1, 0, 1])
array([1, 2, 1, 1]) array([1, 2, 2, 2]) array([2, 0, 2, 1])]

cap has been removed from list

50 caps verified

39 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]
[0. 0. 0. 1.]
[1. 0. 0. 0.]
[0. 1. 0. 0.]]

cap becomes:

{(2.0, 0.0, 1.0, 2.0), (1.0, 0.0, 0.0, 0.0), (1.0, 1.0, 1.0, 0.0), (0.0, 0.0, 0.0, 1.0),
(1.0, 2.0, 1.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (1.0,
2.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 1, 1, 0])
array([1, 2, 1, 1]) array([1, 2, 2, 2]) array([2, 0, 1, 2])]

cap has been removed from list

51 caps verified

38 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]
[0. 0. 1. 1.]
[0. 1. 1. 0.]
[1. 0. 1. 0.]]

cap becomes:

{(1.0, 2.0, 1.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (1.0, 1.0, 1.0, 1.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 1.0, 0.0), (1.0,
0.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])

array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 2, 2])
array([1, 1, 1, 1]) array([1, 2, 1, 2]) array([2, 2, 1, 0])]
cap has been removed from list

52 caps verified

37 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]
[0. 0. 1. 1.]
[0. 1. 2. 0.]
[1. 0. 2. 0.]]

cap becomes:

{(1.0, 0.0, 1.0, 1.0), (1.0, 1.0, 2.0, 2.0), (1.0, 2.0, 2.0, 0.0), (1.0, 0.0, 0.0, 0.0),
(0.0, 0.0, 0.0, 1.0), (2.0, 2.0, 0.0, 2.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0,
0.0, 0.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 2, 2]) array([1, 2, 2, 0]) array([2, 2, 0, 2])]
cap has been removed from list

53 caps verified

36 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]
[0. 0. 1. 1.]
[1. 0. 1. 0.]
[0. 1. 1. 0.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (1.0, 1.0, 1.0, 1.0), (0.0, 0.0, 1.0, 0.0),
(0.0, 1.0, 0.0, 0.0), (1.0, 2.0, 2.0, 1.0), (0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 0.0, 1.0), (1.0,
0.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 2, 2])
array([1, 1, 1, 1]) array([1, 2, 2, 1]) array([2, 2, 0, 1])]

cap has been removed from list

54 caps verified

35 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]
[0. 0. 1. 1.]

[1. 0. 2. 0.]
[0. 1. 2. 0.]]

cap becomes:

{(1.0, 0.0, 1.0, 1.0), (1.0, 1.0, 2.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 2.0, 0.0), (1.0,
2.0, 0.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 2, 2]) array([1, 2, 0, 2]) array([2, 2, 2, 0])]
cap has been removed from list

55 caps verified

34 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]
[0. 0. 2. 1.]
[0. 1. 0. 0.]
[1. 0. 2. 0.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (1.0, 1.0, 1.0, 0.0), (2.0, 1.0, 2.0, 2.0), (0.0, 0.0, 0.0, 1.0),
(1.0, 1.0, 2.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (1.0,
2.0, 0.0, 2.0)}

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
 array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 1, 1, 0])
 array([1, 1, 2, 1]) array([1, 2, 0, 2]) array([2, 1, 2, 2])]
```

cap has been removed from list

56 caps verified

33 caps remaining

initial cap:

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
 array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
 array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]
```

cap is being multiplied by

```
[[0. 0. 1. 0.]
 [0. 0. 2. 1.]
 [1. 0. 2. 0.]
 [0. 1. 0. 0.]]
```

cap becomes:

```
{(1.0, 1.0, 0.0, 1.0), (1.0, 2.0, 2.0, 0.0), (1.0, 0.0, 0.0, 0.0), (2.0, 1.0, 2.0, 2.0),
 (0.0, 0.0, 0.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (1.0,
 1.0, 1.0, 2.0)}
```

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
 array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 1, 0, 1])
 array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 1, 2, 2])]
```

cap has been removed from list

57 caps verified

32 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]

[0. 1. 0. 0.]

[0. 0. 0. 1.]

[1. 0. 0. 0.]]

cap becomes:

{(1.0, 0.0, 1.0, 1.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (1.0, 1.0, 2.0, 1.0),
(0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 0.0, 1.0), (1.0,
2.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 2, 1]) array([1, 2, 2, 2]) array([2, 2, 0, 1])]

cap has been removed from list

58 caps verified

31 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

```
[[0. 0. 1. 0.]  
 [0. 1. 0. 0.]  
 [0. 0. 2. 1.]  
 [1. 0. 2. 0.]]
```

cap becomes:

```
{(1.0, 0.0, 0.0, 0.0), (1.0, 1.0, 1.0, 0.0), (2.0, 2.0, 1.0, 2.0), (0.0, 0.0, 0.0, 1.0),  
 (1.0, 2.0, 1.0, 1.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (1.0,  
 0.0, 2.0, 2.0)}
```

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
 array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 2, 2])  
 array([1, 1, 1, 0]) array([1, 2, 1, 1]) array([2, 2, 1, 2])]
```

cap has been removed from list

59 caps verified

30 caps remaining

initial cap:

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
 array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])  
 array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]
```

cap is being multiplied by

```
[[0. 0. 1. 0.]  
 [0. 1. 0. 0.]  
 [1. 0. 0. 0.]  
 [0. 0. 0. 1.]]
```

cap becomes:

{(1.0, 0.0, 1.0, 1.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (0.0, 0.0, 1.0, 0.0),
(0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (1.0, 1.0, 1.0, 2.0), (1.0, 2.0, 2.0, 2.0), (2.0,
2.0, 1.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 2]) array([2, 2, 1, 0])]

cap has been removed from list

60 caps verified

29 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]
[0. 1. 0. 0.]
[1. 0. 2. 0.]
[0. 0. 2. 1.]]

cap becomes:

{(1.0, 1.0, 0.0, 1.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (1.0, 2.0, 1.0, 1.0),
(2.0, 2.0, 2.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (1.0,
0.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 2, 2])
array([1, 1, 0, 1]) array([1, 2, 1, 1]) array([2, 2, 2, 1])]

cap has been removed from list

61 caps verified

28 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]
[0. 1. 1. 0.]
[0. 0. 1. 1.]
[1. 0. 1. 0.]]

cap becomes:

{(1.0, 1.0, 2.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (1.0, 1.0, 1.0, 1.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 1.0, 2.0, 0.0), (1.0,
2.0, 0.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 1, 1, 1])
array([1, 1, 2, 2]) array([1, 2, 0, 2]) array([2, 1, 2, 0])]

cap has been removed from list

62 caps verified

27 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])

array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]
[0. 1. 1. 0.]
[1. 0. 1. 0.]
[0. 0. 1. 1.]]

cap becomes:

{(1.0, 1.0, 2.0, 2.0), (2.0, 1.0, 0.0, 2.0), (1.0, 2.0, 2.0, 0.0), (1.0, 0.0, 0.0, 0.0),
(0.0, 0.0, 0.0, 1.0), (1.0, 1.0, 1.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0,
0.0, 0.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 1, 1, 1])
array([1, 1, 2, 2]) array([1, 2, 2, 0]) array([2, 1, 0, 2])]

cap has been removed from list

63 caps verified

26 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]
[0. 1. 2. 0.]
[0. 0. 1. 1.]
[1. 0. 2. 0.]]

cap becomes:

{(1.0, 1.0, 0.0, 1.0), (1.0, 2.0, 1.0, 2.0), (1.0, 2.0, 2.0, 0.0), (1.0, 0.0, 0.0, 0.0),
(0.0, 0.0, 0.0, 1.0), (2.0, 0.0, 2.0, 2.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0,
0.0, 0.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 1, 0, 1])
array([1, 2, 1, 2]) array([1, 2, 2, 0]) array([2, 0, 2, 2])]

cap has been removed from list

64 caps verified

25 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]
[0. 1. 2. 0.]
[1. 0. 2. 0.]
[0. 0. 1. 1.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (1.0, 1.0, 1.0, 0.0), (0.0, 0.0, 0.0, 1.0), (1.0, 2.0, 2.0, 1.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (2.0, 0.0, 2.0, 2.0), (0.0, 0.0, 0.0, 0.0), (1.0,
2.0, 0.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])]

array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 1, 1, 0])
array([1, 2, 0, 2]) array([1, 2, 2, 1]) array([2, 0, 2, 2])
cap has been removed from list

65 caps verified

24 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]
[1. 0. 0. 0.]
[0. 0. 0. 1.]
[0. 1. 0. 0.]]

cap becomes:

{(2.0, 1.0, 0.0, 2.0), (1.0, 0.0, 0.0, 0.0), (1.0, 1.0, 1.0, 0.0), (0.0, 0.0, 0.0, 1.0),
(1.0, 1.0, 2.0, 1.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (1.0,
2.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 1, 1, 0])
array([1, 1, 2, 1]) array([1, 2, 2, 2]) array([2, 1, 0, 2])]
cap has been removed from list

66 caps verified

23 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]
[1. 0. 0. 0.]
[0. 1. 0. 0.]
[0. 0. 0. 1.]]

cap becomes:

{(1.0, 1.0, 0.0, 1.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 0.0, 0.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (1.0, 1.0, 1.0, 2.0), (1.0, 2.0, 2.0, 2.0), (2.0,
1.0, 2.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 1, 0, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 2]) array([2, 1, 2, 0])]

cap has been removed from list

67 caps verified

22 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]

[1. 0. 1. 0.]
[0. 0. 1. 1.]
[0. 1. 1. 0.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (1.0, 1.0, 1.0, 1.0), (0.0, 0.0, 1.0, 0.0),
(0.0, 1.0, 0.0, 0.0), (1.0, 2.0, 2.0, 1.0), (0.0, 0.0, 0.0, 0.0), (2.0, 0.0, 2.0, 1.0), (1.0,
2.0, 0.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 1, 1, 1])
array([1, 2, 0, 2]) array([1, 2, 2, 1]) array([2, 0, 2, 1])]

cap has been removed from list

68 caps verified

21 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]
[1. 0. 1. 0.]
[0. 1. 1. 0.]
[0. 0. 1. 1.]]

cap becomes:

{(1.0, 2.0, 1.0, 2.0), (2.0, 0.0, 1.0, 2.0), (1.0, 2.0, 2.0, 0.0), (1.0, 0.0, 0.0, 0.0),
(0.0, 0.0, 0.0, 1.0), (1.0, 1.0, 1.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0,
0.0, 0.0, 0.0)}

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 1, 1, 1])  
array([1, 2, 1, 2]) array([1, 2, 2, 0]) array([2, 0, 1, 2])]
```

cap has been removed from list

69 caps verified

20 caps remaining

initial cap:

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])  
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]
```

cap is being multiplied by

```
[[0. 0. 1. 0.]  
[1. 0. 2. 0.]  
[0. 0. 1. 1.]  
[0. 1. 2. 0.]]
```

cap becomes:

```
{(1.0, 1.0, 0.0, 1.0), (1.0, 2.0, 1.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0),  
(0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 2.0, 0.0), (1.0,  
0.0, 2.0, 2.0)}
```

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 2, 2])  
array([1, 1, 0, 1]) array([1, 2, 1, 2]) array([2, 2, 2, 0])]
```

cap has been removed from list

70 caps verified

19 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 0.]

[1. 0. 2. 0.]

[0. 1. 0. 0.]

[0. 0. 2. 1.]]

cap becomes:

{(1.0, 0.0, 1.0, 1.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (1.0, 1.0, 2.0, 1.0),
(2.0, 2.0, 2.0, 1.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (1.0,
2.0, 0.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 2, 1]) array([1, 2, 0, 2]) array([2, 2, 2, 1])]

cap has been removed from list

71 caps verified

18 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

```
[[0. 0. 1. 0.]  
 [1. 0. 2. 0.]  
 [0. 1. 2. 0.]  
 [0. 0. 1. 1.]]
```

cap becomes:

```
{(1.0, 0.0, 0.0, 0.0), (1.0, 1.0, 1.0, 0.0), (0.0, 0.0, 0.0, 1.0), (1.0, 2.0, 2.0, 1.0),  
 (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (2.0, 2.0, 0.0, 2.0), (0.0, 0.0, 0.0, 0.0), (1.0,  
 0.0, 2.0, 2.0)}
```

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
 array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 2, 2])  
 array([1, 1, 1, 0]) array([1, 2, 2, 1]) array([2, 2, 0, 2])]
```

cap has been removed from list

72 caps verified

17 caps remaining

initial cap:

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
 array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])  
 array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]
```

cap is being multiplied by

```
[[0. 0. 1. 2.]  
 [0. 0. 0. 1.]  
 [0. 1. 0. 0.]  
 [1. 0. 0. 2.]]
```

cap becomes:

{(2.0, 1.0, 0.0, 2.0), (1.0, 0.0, 0.0, 0.0), (2.0, 2.0, 1.0, 2.0), (0.0, 0.0, 0.0, 1.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 2.0, 0.0), (2.0,
0.0, 2.0, 1.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([2, 0, 2, 1])
array([2, 1, 0, 2]) array([2, 2, 1, 2]) array([2, 2, 2, 0])]

cap has been removed from list

73 caps verified

16 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 2.]
[0. 0. 0. 1.]
[1. 0. 0. 2.]
[0. 1. 0. 0.]]

cap becomes:

{(2.0, 0.0, 1.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (2.0, 2.0, 2.0, 1.0),
(2.0, 2.0, 0.0, 2.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0,
1.0, 2.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([2, 0, 1, 2])
array([2, 1, 2, 0]) array([2, 2, 0, 2]) array([2, 2, 2, 1])]

cap has been removed from list

74 caps verified

15 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 2.]
[0. 1. 0. 0.]
[0. 0. 0. 1.]
[1. 0. 0. 2.]]

cap becomes:

{(2.0, 0.0, 1.0, 2.0), (1.0, 0.0, 0.0, 0.0), (2.0, 1.0, 2.0, 2.0), (0.0, 0.0, 0.0, 1.0),
(0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 2.0, 0.0), (2.0,
2.0, 0.0, 1.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([2, 0, 1, 2])
array([2, 1, 2, 2]) array([2, 2, 0, 1]) array([2, 2, 2, 0])]

cap has been removed from list

75 caps verified

14 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])

array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 2.]
[0. 1. 0. 0.]
[1. 0. 0. 2.]
[0. 0. 0. 1.]]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (2.0, 1.0, 2.0, 2.0), (0.0, 0.0, 0.0, 1.0), (2.0, 2.0, 0.0, 2.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 0.0, 2.0, 1.0), (2.0,
2.0, 1.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([2, 0, 2, 1])
array([2, 1, 2, 2]) array([2, 2, 0, 2]) array([2, 2, 1, 0])]

cap has been removed from list

76 caps verified

13 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 0. 1. 2.]
[1. 0. 0. 2.]
[0. 0. 0. 1.]
[0. 1. 0. 0.]]

cap becomes:

{(2.0, 1.0, 0.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (2.0, 2.0, 2.0, 1.0),
(2.0, 0.0, 2.0, 2.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0,
2.0, 1.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([2, 0, 2, 2])
array([2, 1, 0, 2]) array([2, 2, 1, 0]) array([2, 2, 2, 1])]

cap has been removed from list

77 caps verified

12 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[0. 0. 1. 2.]

[1. 0. 0. 2.]

[0. 1. 0. 0.]

[0. 0. 0. 1.]

cap becomes:

{(1.0, 0.0, 0.0, 0.0), (2.0, 2.0, 1.0, 2.0), (0.0, 0.0, 0.0, 1.0), (2.0, 0.0, 2.0, 2.0),
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 0.0, 1.0), (2.0,
1.0, 2.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])]

array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([2, 0, 2, 2])
array([2, 1, 2, 0]) array([2, 2, 0, 1]) array([2, 2, 1, 2])]
cap has been removed from list

78 caps verified

11 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 1. 2. 0.]
[0. 0. 0. 1.]
[0. 0. 2. 0.]
[1. 0. 1. 0.]]

cap becomes:

{(0.0, 2.0, 2.0, 2.0), (1.0, 0.0, 0.0, 0.0), (1.0, 2.0, 2.0, 0.0), (2.0, 1.0, 2.0, 2.0),
(0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0,
0.0, 2.0, 1.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 2]) array([1, 0, 0, 0])
array([1, 2, 2, 0]) array([2, 0, 2, 1]) array([2, 1, 2, 2])]
cap has been removed from list

79 caps verified

10 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 1. 2. 0.]
[0. 0. 0. 1.]
[1. 0. 1. 0.]
[0. 0. 2. 0.]]

cap becomes:

{(0.0, 2.0, 2.0, 2.0), (2.0, 0.0, 1.0, 2.0), (1.0, 0.0, 0.0, 0.0), (2.0, 1.0, 2.0, 2.0),
(0.0, 0.0, 0.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (1.0,
2.0, 0.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 2]) array([1, 0, 0, 0])
array([1, 2, 0, 2]) array([2, 0, 1, 2]) array([2, 1, 2, 2])]

cap has been removed from list

80 caps verified

9 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 1. 2. 0.]

[0. 0. 0. 2.]
[0. 0. 2. 2.]
[1. 0. 1. 2.]]

cap becomes:

{(1.0, 1.0, 0.0, 1.0), (0.0, 2.0, 2.0, 2.0), (2.0, 2.0, 1.0, 1.0), (1.0, 0.0, 0.0, 0.0),
(0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0,
0.0, 2.0, 1.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 2]) array([1, 0, 0, 0])
array([1, 1, 0, 1]) array([2, 0, 2, 1]) array([2, 2, 1, 1])]

cap has been removed from list

81 caps verified

8 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 1. 2. 0.]
[0. 0. 0. 2.]
[1. 0. 1. 2.]
[0. 0. 2. 2.]]

cap becomes:

{(0.0, 2.0, 2.0, 2.0), (2.0, 0.0, 1.0, 2.0), (2.0, 2.0, 1.0, 1.0), (1.0, 0.0, 0.0, 0.0),
(1.0, 1.0, 1.0, 0.0), (0.0, 0.0, 0.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0,
0.0, 0.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 2]) array([1, 0, 0, 0])
array([1, 1, 1, 0]) array([2, 0, 1, 2]) array([2, 2, 1, 1])]

cap has been removed from list

82 caps verified

7 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 1. 2. 0.]
[0. 0. 1. 0.]
[0. 0. 1. 1.]
[1. 0. 2. 0.]]

cap becomes:

{(1.0, 1.0, 0.0, 1.0), (0.0, 2.0, 2.0, 2.0), (1.0, 0.0, 0.0, 0.0), (2.0, 1.0, 1.0, 2.0),
(0.0, 0.0, 0.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0,
1.0, 2.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 2]) array([1, 0, 0, 0])
array([1, 1, 0, 1]) array([2, 1, 1, 2]) array([2, 1, 2, 0])]

cap has been removed from list

83 caps verified

6 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 1. 2. 0.]

[0. 0. 1. 0.]

[1. 0. 2. 0.]

[0. 0. 1. 1.]]

cap becomes:

{(0.0, 2.0, 2.0, 2.0), (2.0, 1.0, 0.0, 2.0), (2.0, 1.0, 2.0, 1.0), (1.0, 0.0, 0.0, 0.0),
(1.0, 1.0, 1.0, 0.0), (0.0, 0.0, 0.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0,
0.0, 0.0, 0.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 2]) array([1, 0, 0, 0])
array([1, 1, 1, 0]) array([2, 1, 0, 2]) array([2, 1, 2, 1])]

cap has been removed from list

84 caps verified

5 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

```
[[0. 1. 2. 0.]  
 [0. 0. 1. 1.]  
 [0. 0. 1. 0.]  
 [1. 0. 2. 0.]]
```

cap becomes:

```
{(1.0, 0.0, 1.0, 1.0), (0.0, 2.0, 2.0, 2.0), (1.0, 0.0, 0.0, 0.0), (2.0, 1.0, 1.0, 2.0),  
 (0.0, 0.0, 0.0, 1.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0,  
 2.0, 1.0, 0.0)}
```

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
 array([0, 1, 0, 0]) array([0, 2, 2, 2]) array([1, 0, 0, 0])  
 array([1, 0, 1, 1]) array([2, 1, 1, 2]) array([2, 2, 1, 0])]
```

cap has been removed from list

85 caps verified

4 caps remaining

initial cap:

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
 array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])  
 array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]
```

cap is being multiplied by

```
[[0. 1. 2. 0.]  
 [0. 0. 1. 1.]  
 [0. 2. 2. 0.]  
 [1. 2. 0. 0.]]
```

cap becomes:

{(0.0, 2.0, 2.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (2.0, 2.0, 2.0, 1.0),
(0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 1.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 1.0, 2.0, 0.0), (1.0,
0.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 2]) array([1, 0, 0, 0])
array([1, 0, 2, 2]) array([2, 1, 2, 0]) array([2, 2, 2, 1])]

cap has been removed from list

86 caps verified

3 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 1. 2. 0.]
[0. 0. 1. 1.]
[1. 0. 2. 0.]
[0. 0. 1. 0.]]

cap becomes:

{(1.0, 0.0, 1.0, 1.0), (0.0, 2.0, 2.0, 2.0), (2.0, 1.0, 2.0, 1.0), (1.0, 0.0, 0.0, 0.0),
(0.0, 0.0, 0.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0,
2.0, 0.0, 1.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 2]) array([1, 0, 0, 0])
array([1, 0, 1, 1]) array([2, 1, 2, 1]) array([2, 2, 0, 1])]

cap has been removed from list

87 caps verified

2 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 1. 2. 0.]
[0. 0. 1. 1.]
[1. 2. 0. 0.]
[0. 2. 2. 0.]]

cap becomes:

{(0.0, 2.0, 2.0, 2.0), (2.0, 1.0, 0.0, 2.0), (1.0, 0.0, 0.0, 0.0), (2.0, 2.0, 1.0, 2.0),
(0.0, 0.0, 0.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (1.0,
0.0, 2.0, 2.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 2]) array([1, 0, 0, 0])
array([1, 0, 2, 2]) array([2, 1, 0, 2]) array([2, 2, 1, 2])]

cap has been removed from list

88 caps verified

1 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])]

array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 1. 2. 0.]
[0. 0. 2. 0.]
[0. 0. 0. 1.]
[1. 0. 1. 0.]]

cap becomes:

{(0.0, 2.0, 2.0, 2.0), (1.0, 0.0, 0.0, 0.0), (1.0, 2.0, 2.0, 0.0), (2.0, 2.0, 1.0, 2.0),
(0.0, 0.0, 0.0, 1.0), (0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0,
2.0, 0.0, 1.0)}

which is equal to the following cap that's still on the list

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([0, 2, 2, 2]) array([1, 0, 0, 0])
array([1, 2, 2, 0]) array([2, 2, 0, 1]) array([2, 2, 1, 2])]

cap has been removed from list

89 caps verified

0 caps remaining

initial cap:

[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])
array([0, 1, 0, 0]) array([1, 0, 0, 0]) array([1, 0, 1, 1])
array([1, 1, 1, 2]) array([1, 2, 2, 0]) array([2, 2, 1, 2])]

cap is being multiplied by

[[0. 1. 2. 0.]
[0. 0. 2. 0.]
[1. 0. 1. 0.]
[0. 0. 0. 1.]]

cap becomes:

```
{(0.0, 2.0, 2.0, 2.0), (1.0, 0.0, 0.0, 0.0), (0.0, 0.0, 0.0, 1.0), (2.0, 2.0, 2.0, 1.0),  
(0.0, 0.0, 1.0, 0.0), (0.0, 1.0, 0.0, 0.0), (0.0, 0.0, 0.0, 0.0), (2.0, 2.0, 1.0, 0.0), (1.0,  
2.0, 0.0, 2.0)}
```

which is equal to the following cap that's still on the list

```
[array([0, 0, 0, 0]) array([0, 0, 0, 1]) array([0, 0, 1, 0])  
array([0, 1, 0, 0]) array([0, 2, 2, 2]) array([1, 0, 0, 0])  
array([1, 2, 0, 2]) array([2, 2, 1, 0]) array([2, 2, 2, 1])]
```

cap has been removed from list

An exception has occurred, use %tb to see the full traceback.

SystemExit: Solution Found