In [18]:
```
import json
import os
import matplotlib.pyplot as plt

train_dir = 'data/training'
```

https://www.kaggle.com/c/abstraction-and-reasoning-challenge/data (https://www.kaggle.com/c/abstraction-and-reasoning-challenge/data)

data description

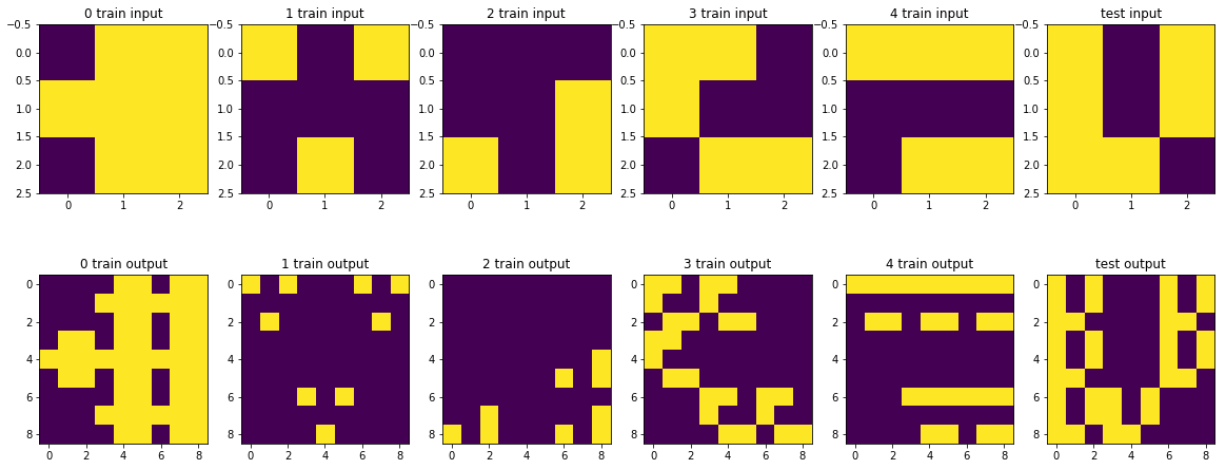
In [3]:
```
train = []
test = []
```

In [9]:
```
for file in os.listdir(train_dir):
    with open(os.path.join(train_dir, file)) as f:
        temp = json.load(f)
        train.append(temp['train'])
        test.append(temp['test'])
```

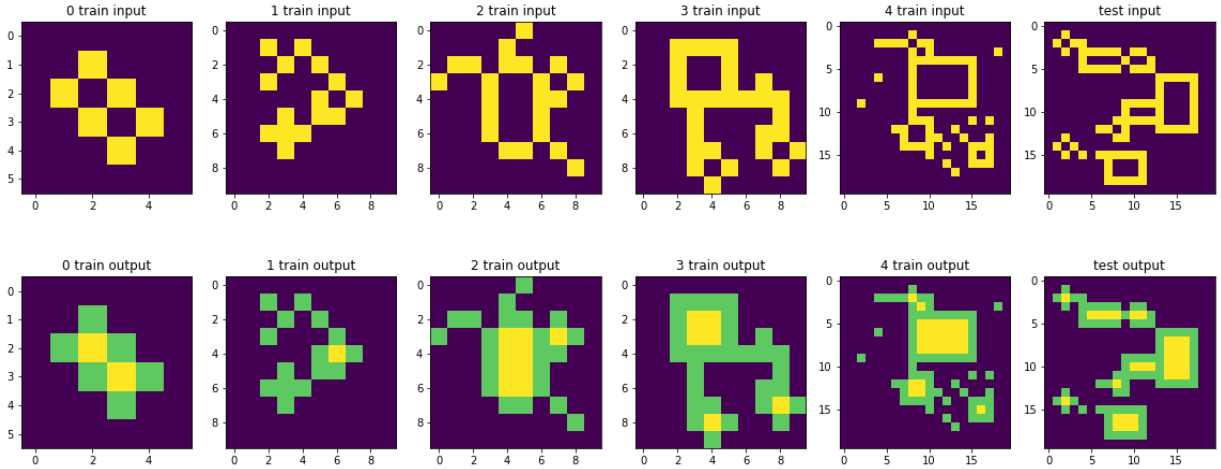
In [61]:
```
train_input = []
train_output = []
for task in train:
    inputs = []
    outputs = []
    for pairs in task:
        inputs.append(pairs['input'])
        outputs.append(pairs['output'])
    train_input.append(inputs)
    train_output.append(outputs)
test_input = []
test_output = []
for task in test:
    for pairs in task:
        test_input.append(pairs['input'])
        test_output.append(pairs['output'])
```

In [80]:
```
def display_task(index):
    inputs = train_input[index]
    outputs = train_output[index]
    size = len(inputs)
    fig, ax = plt.subplots(2, size+1, figsize=(4*size, 8))
    for i in range(size):
        ax[0][i].imshow(inputs[i])
        ax[0][i].set_title('{i} train input'.format(i=i))
        ax[1][i].imshow(outputs[i])
        ax[1][i].set_title('{i} train output'.format(i=i))
    ax[0][size].imshow(test_input[index])
    ax[0][size].set_title('test input')
    ax[1][size].imshow(test_output[index])
    ax[1][size].set_title('test output')
```

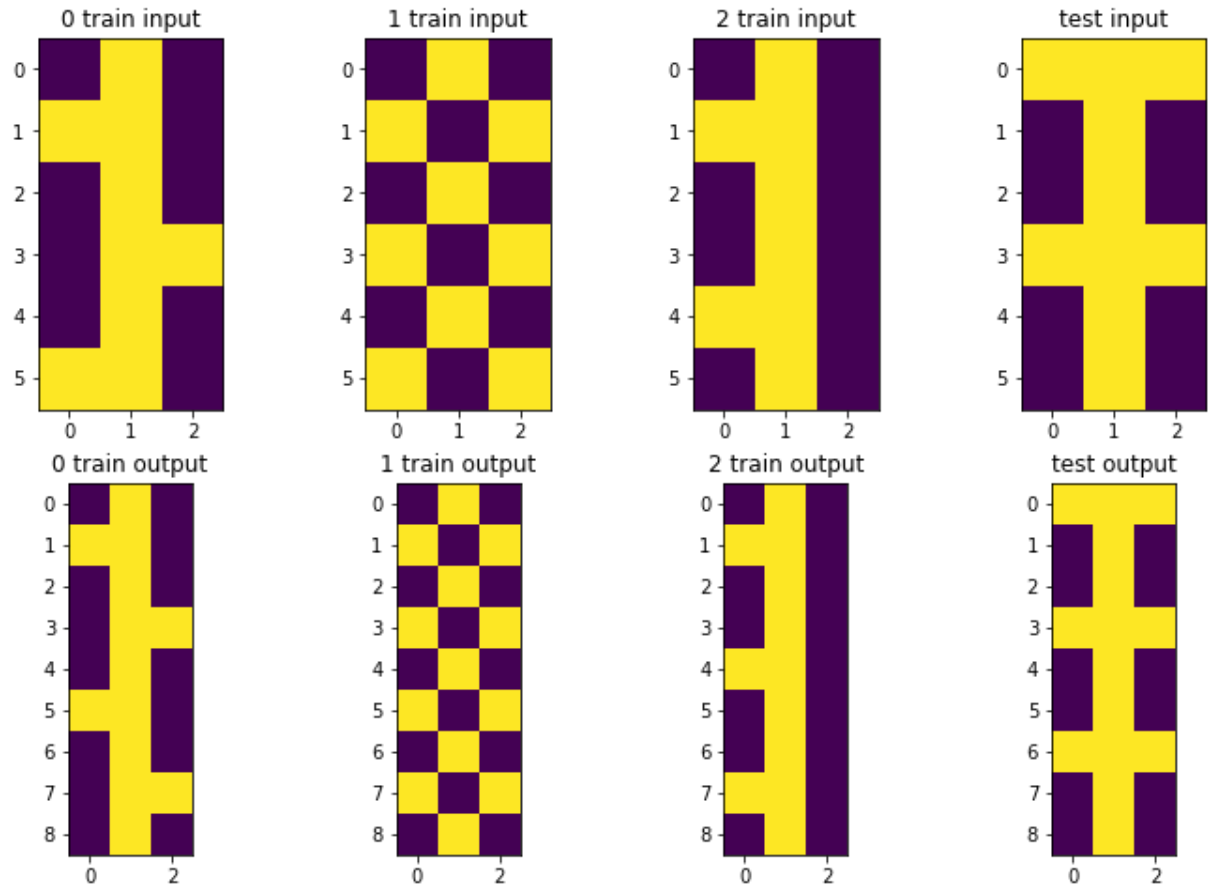
In [81]:
```
display_task(0)
```



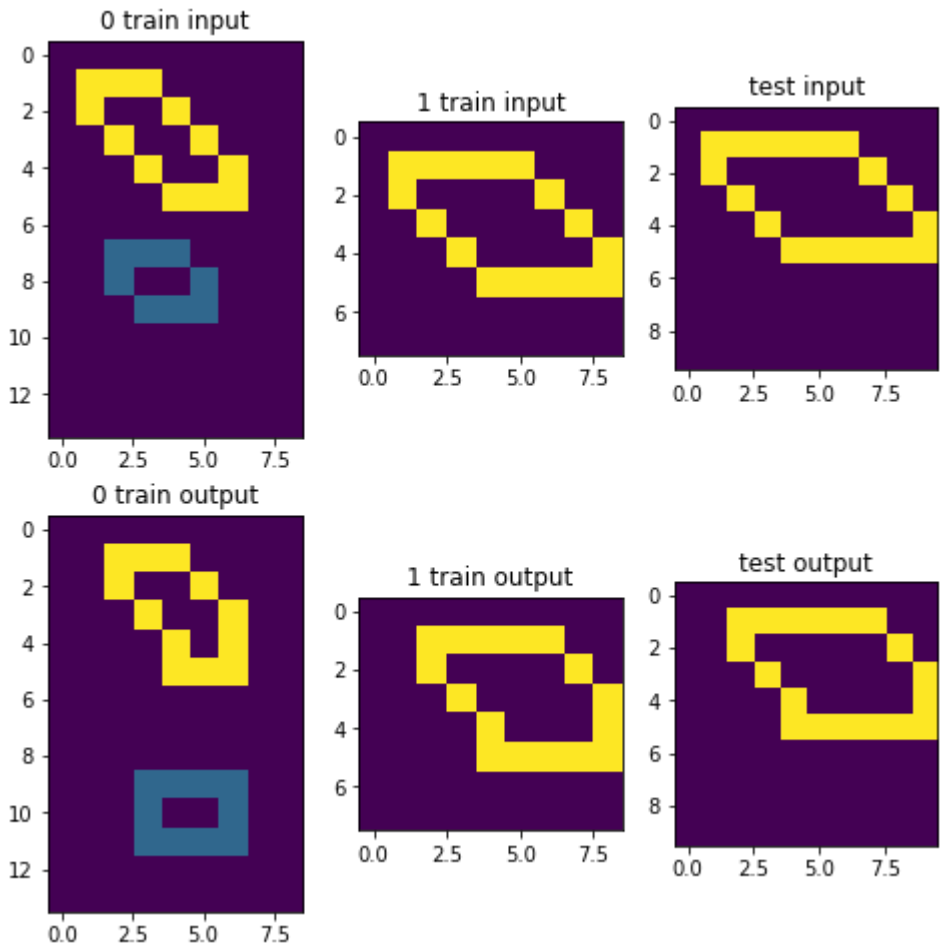
In [82]:
```
display_task(1)
```

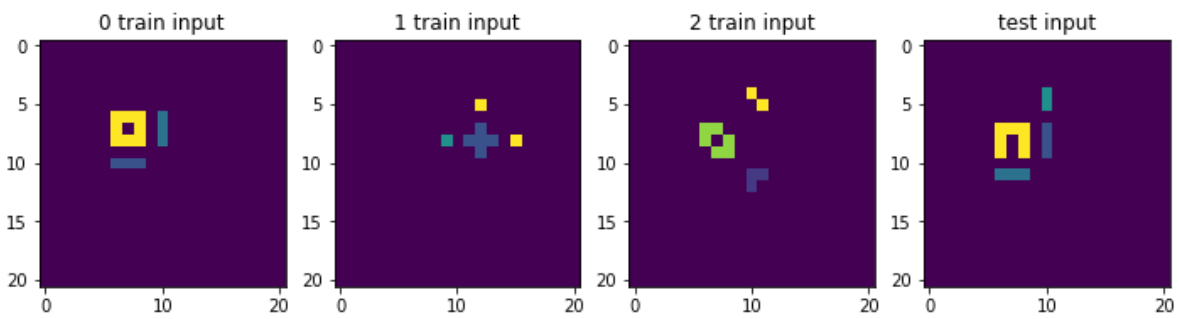


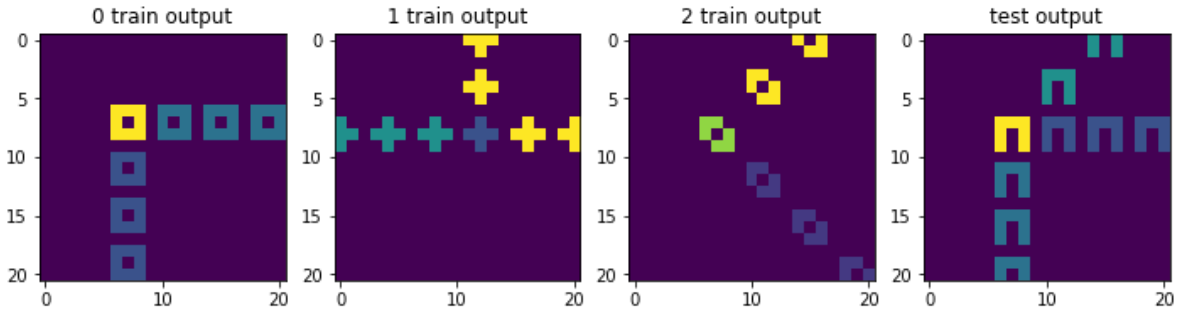
In [83]:
```
display_task(2)
```

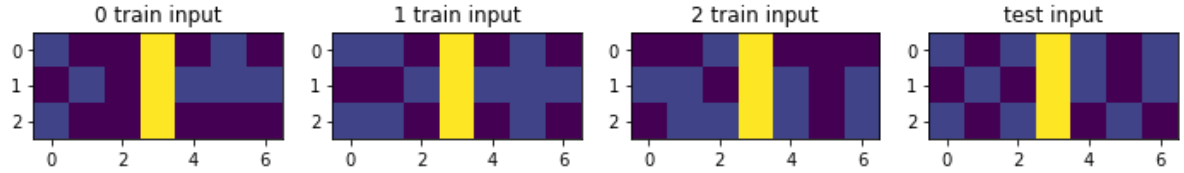


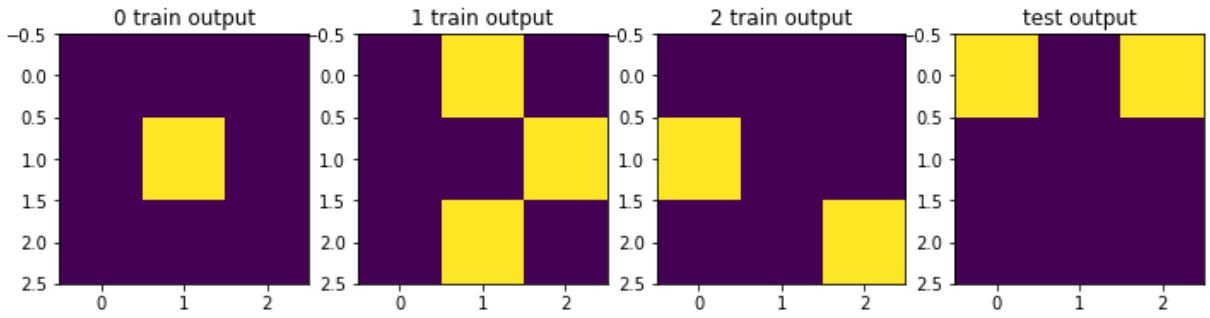
In [84]:
```
for i in range(3, 10):
    display_task(i)
```

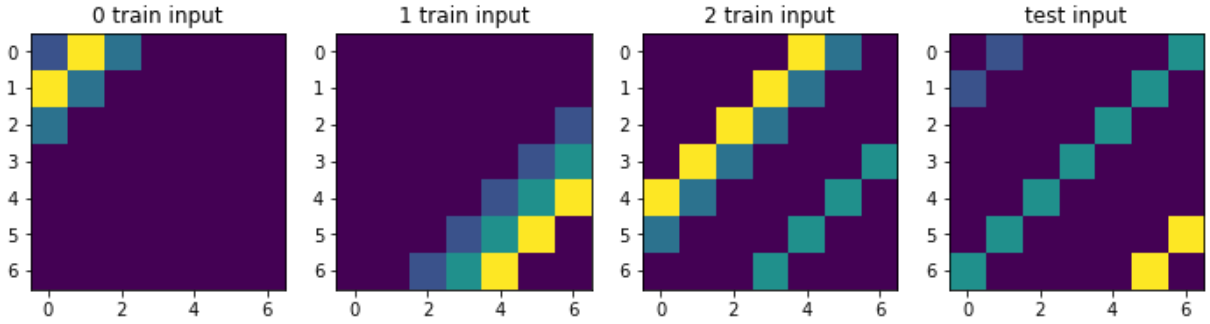


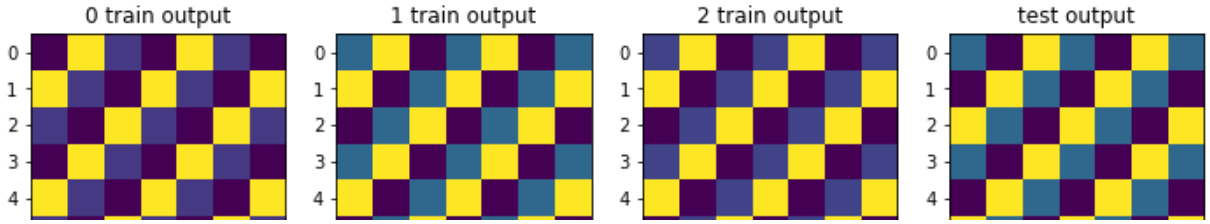

0 train input
1 train input
2 train input
test input

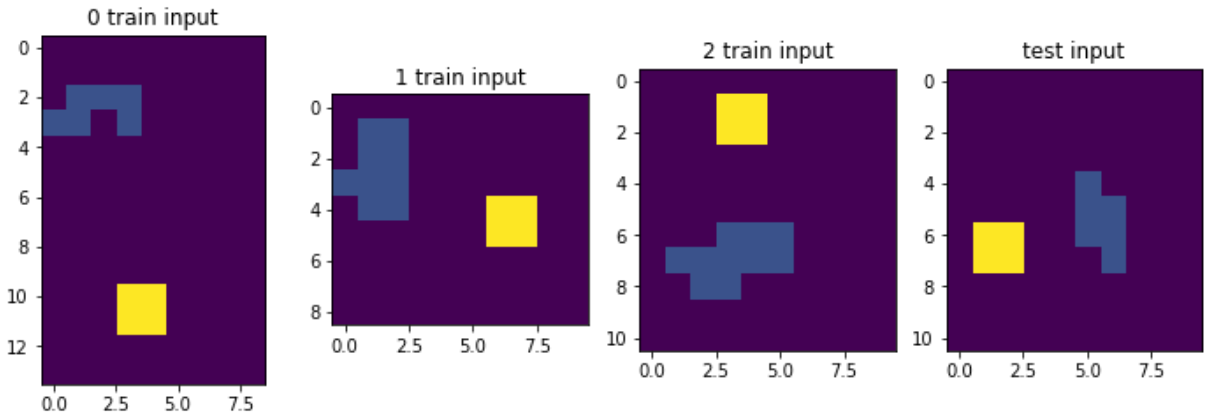

0 train output
1 train output
2 train output
test output

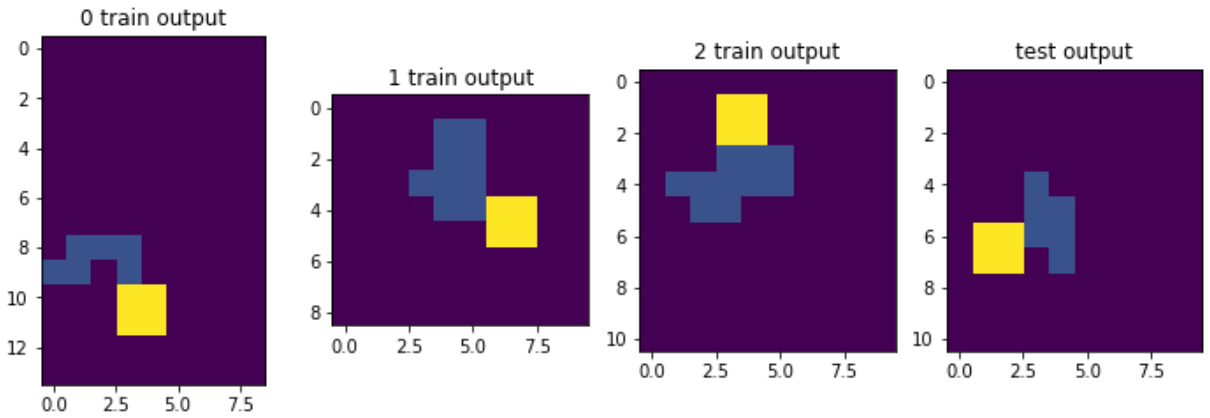

0 train input
1 train input
2 train input
test input

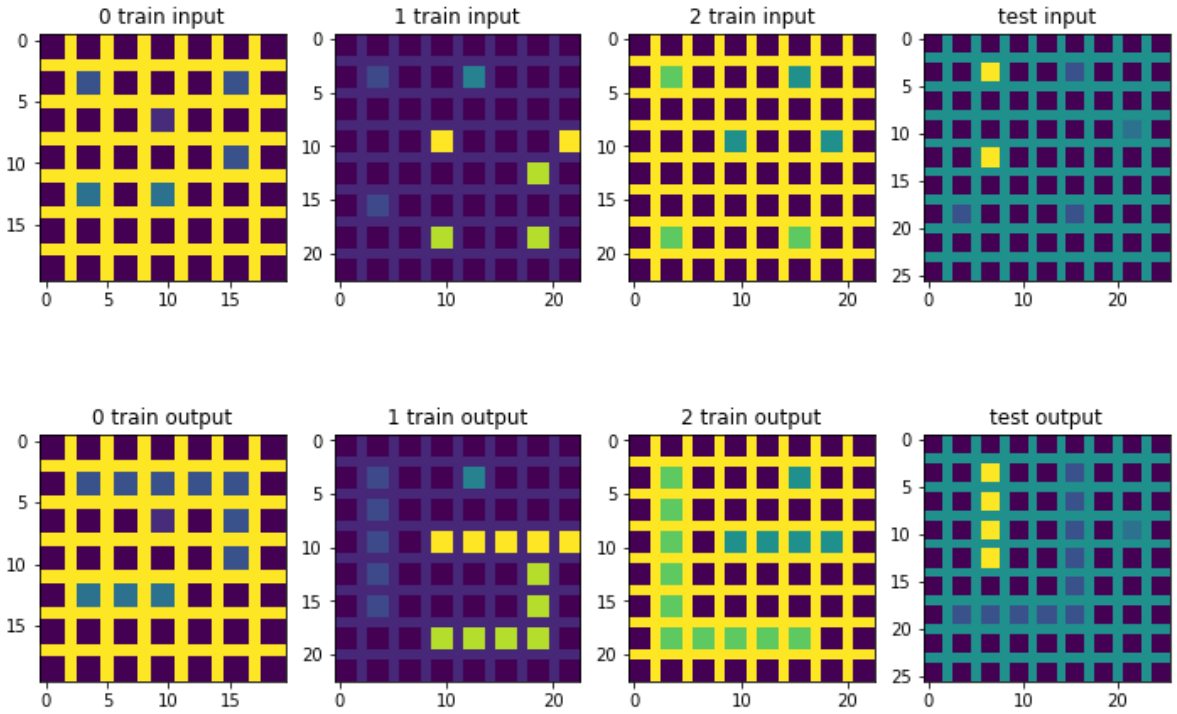

0 train output
1 train output
2 train output
test output


0 train input
1 train input
2 train input
test input

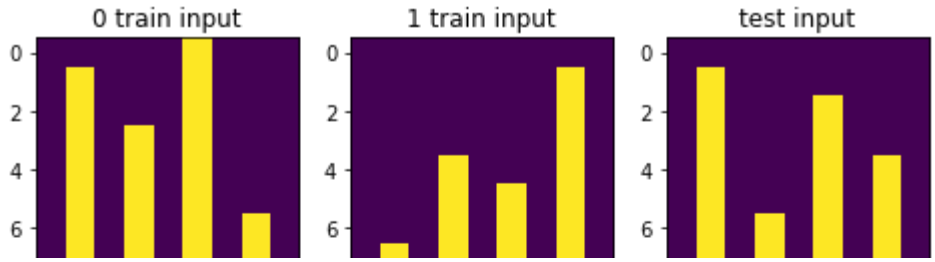

0 train output
1 train output
2 train output
test output


0 train input
1 train input
2 train input
test input

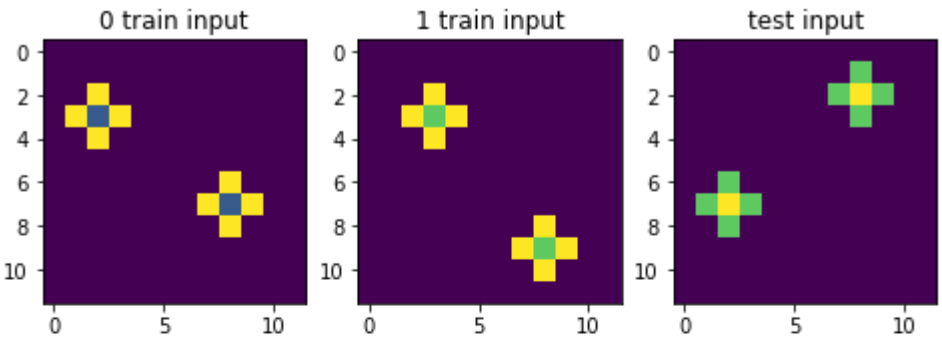

0 train output
1 train output
2 train output
test output

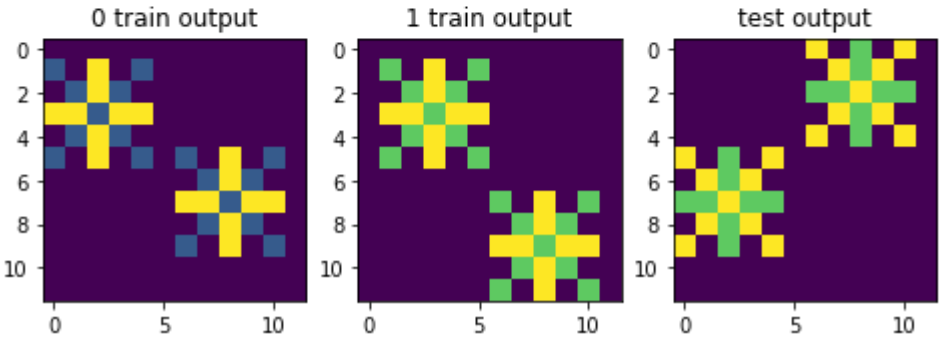

0 train input
1 train input
2 train input
test input

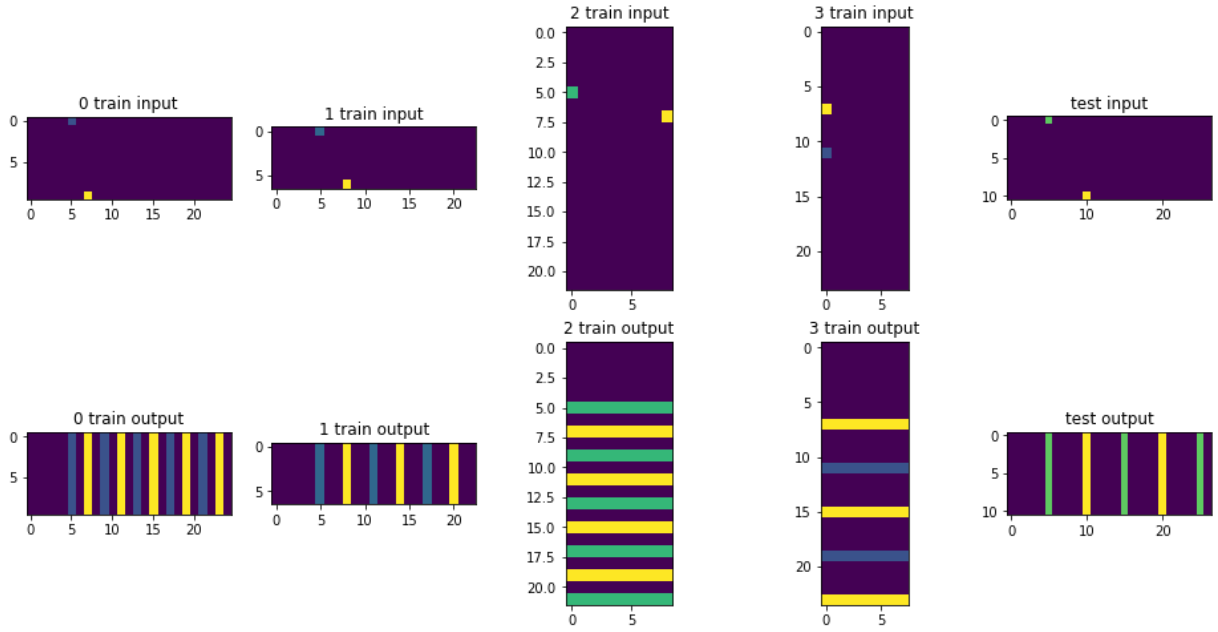
0 train output
1 train output
2 train output
test output

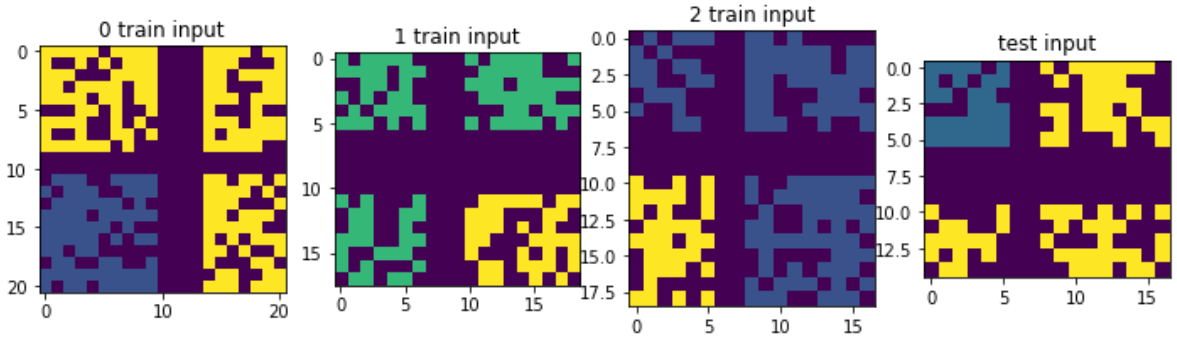

0 train input
1 train input
test input
0
2
4
6

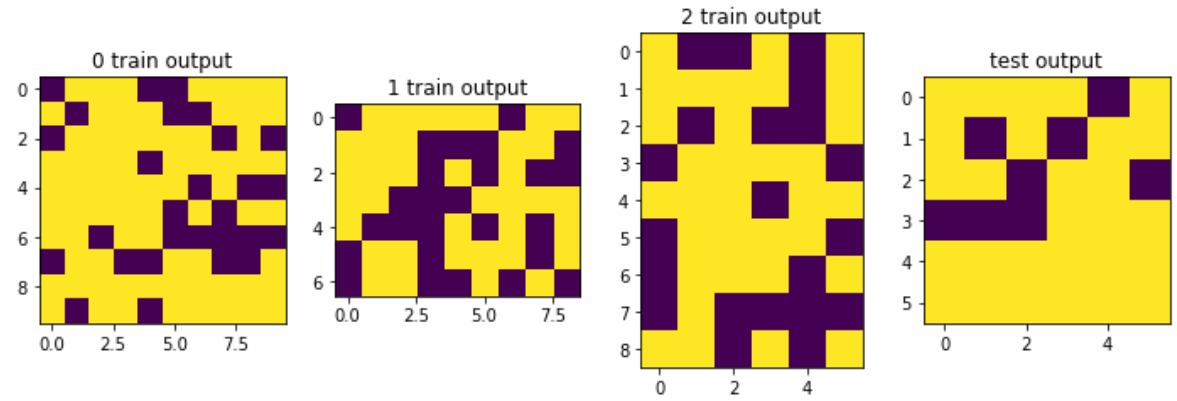
In [85]:
```
for i in range(11, 21):
    display_task(i)
```

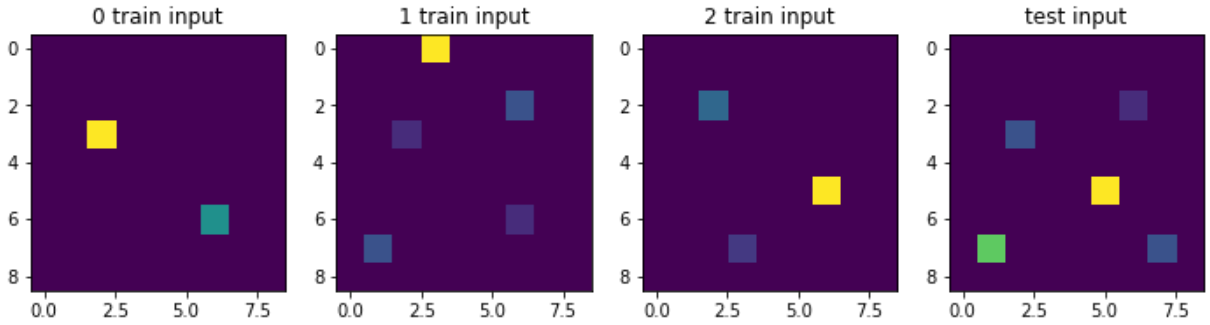


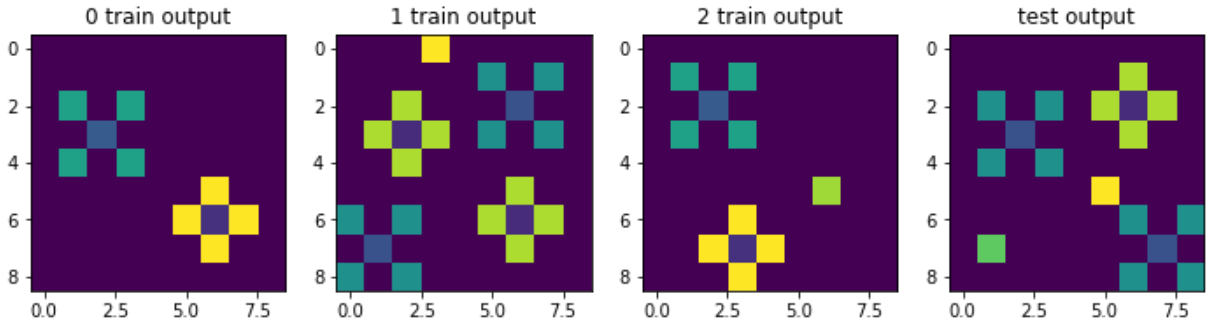


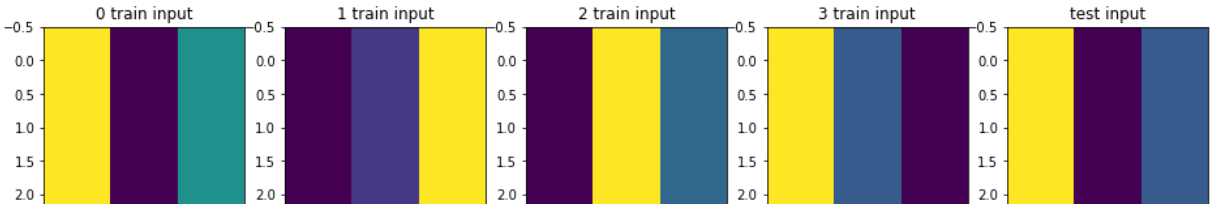


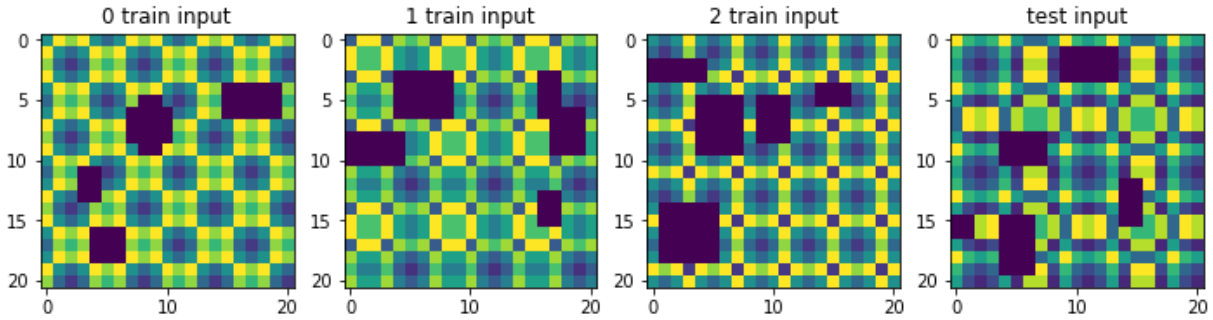

0 train input
1 train input
2 train input
test input

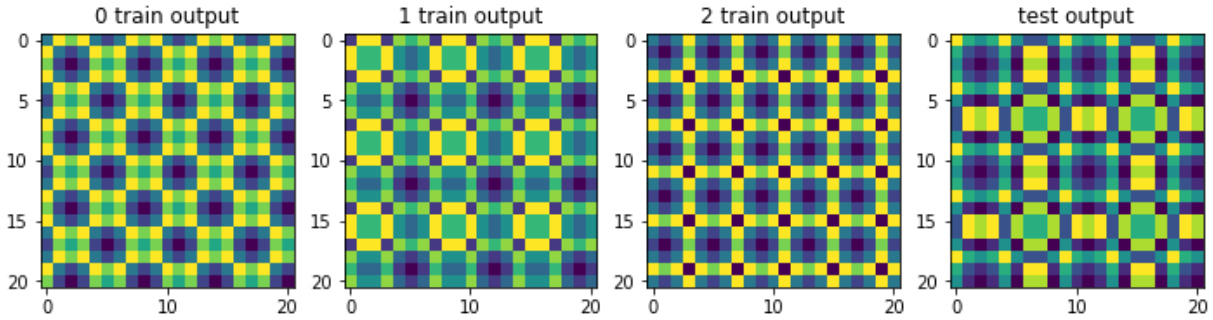

0 train output
1 train output
2 train output
test output

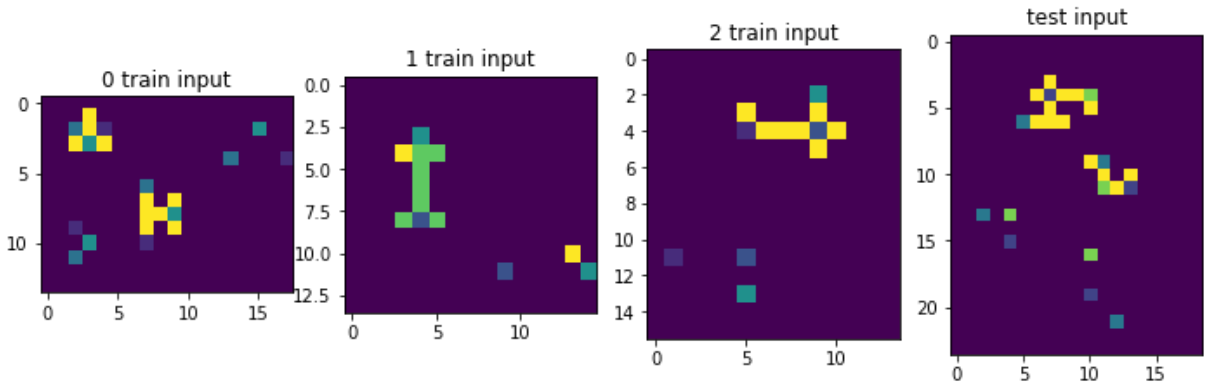

0 train input
1 train input
2 train input
test input

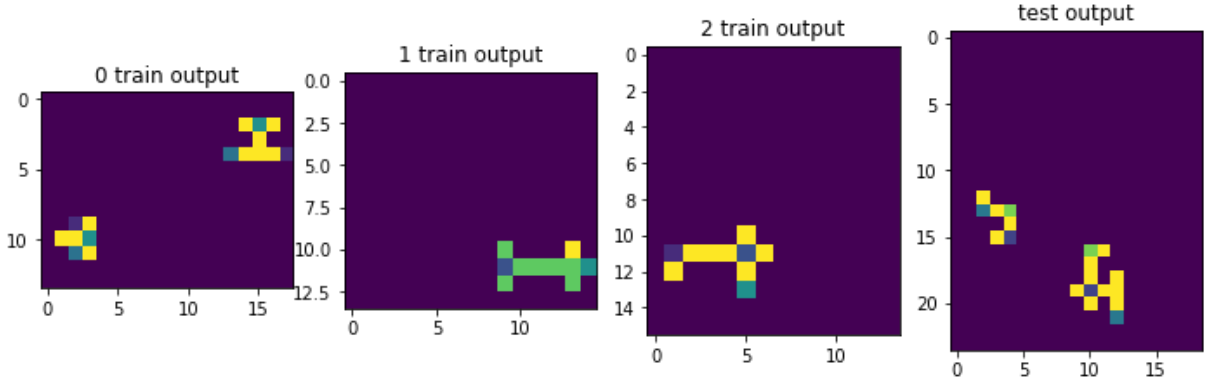

0 train output
1 train output
2 train output
test output

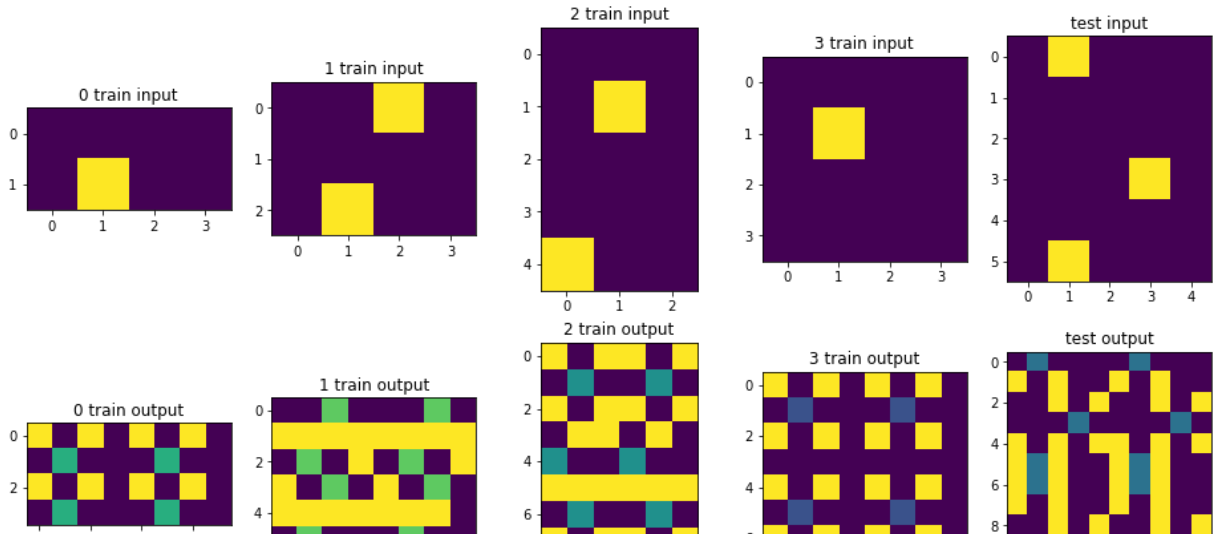

0 train input
1 train input
2 train input
3 train input
test input

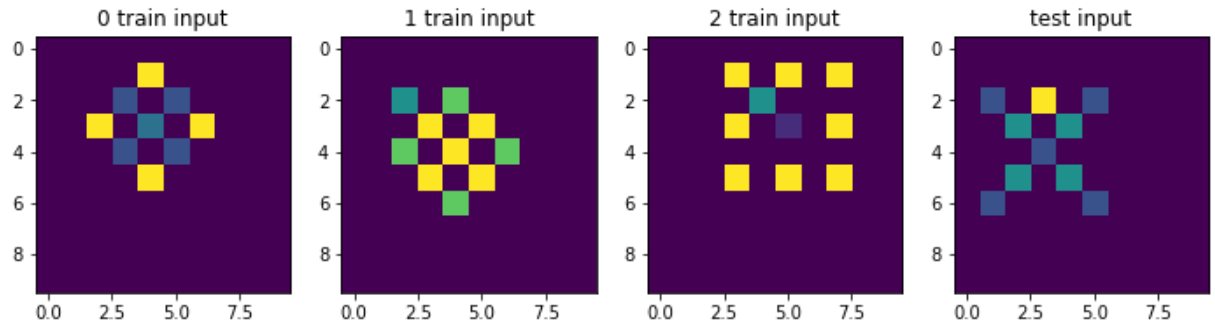

0 train input
1 train input
2 train input
test input

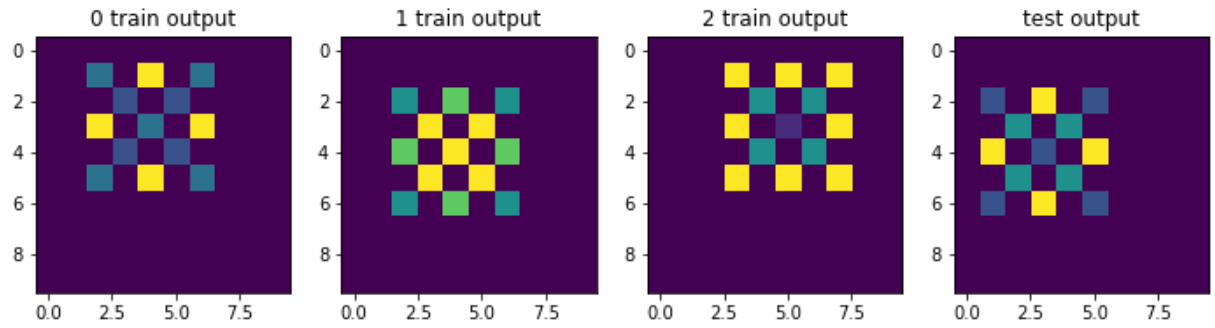

0 train output
1 train output
2 train output
test output

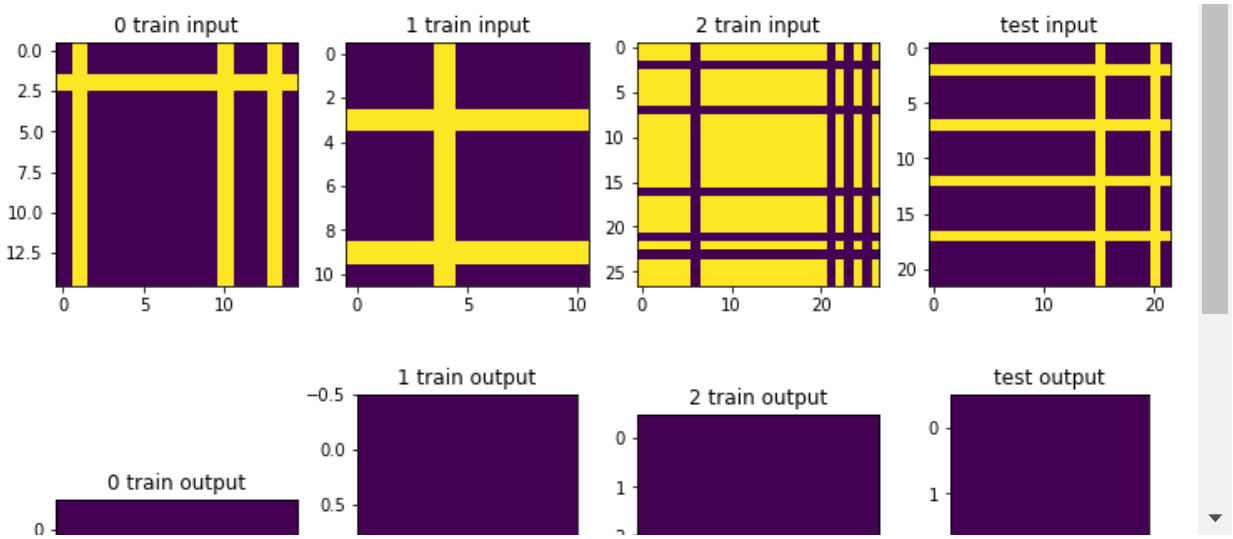

0 train input
1 train input
2 train input
test input


0 train output
1 train output
2 train output
test output


0 train input
1 train input
2 train input
3 train input
test input
0 train output
1 train output
2 train output
3 train output
test output


0 train input
1 train input
2 train input
test input


0 train output
1 train output
2 train output
test output


0 train input
1 train input
2 train input
test input
0 train output
1 train output
2 train output
test output

In [ ]: