```
[0.0.0.0.0.0.]
 2
    [0. 0. 0. 1. 0.]
 3
    [0. 0. 1. 0. 0.]
 4
    [0. \ 0. \ 1. \ 1. \ 1.]
 5
    [0. 1. 0. 0. 0.]
 6
   [0. 1. 0. 1. 1.]
 7
    [0. 1. 1. 0. 1.]
 8
    [0. 1. 1. 1. 0.]
9
   [1. 0. 0. 0. 0.]
10
   [1. 0. 0. 1. 1.]
11
    [1. 0. 1. 0. 1.]
    [1. 0. 1. 1. 0.]
12
13
    [1. 1. 0. 0. 1.]
    [1. 1. 0. 1. 0.]
14
15
    [1. 1. 1. 0. 0.]
    [1. 1. 1. 1. 1.]]
16
17 [[ 0.26585509 -1.14958608 -0.41537783 -0.33818303]] B1
18 [[-0.21585666
                  0.10935937 0.08573899 -0.372270871
   [-0.53192018
                  0.55409801
                               0.62022503 - 0.21294909
19
    [ 0.06781639 -0.27782218  0.40087037 -0.53346791]
20
21
    [ 0.77507805 -0.26015622 0.68647154 0.04950053]] W1
22 [[0.28204004]] B2
23 [[ 0.45626769]
24
   [-0.38022643]
25
   [ 0.34782089]
   [-0.17471883]] W2
26
27 [[0. 0. 0. 0.]] hidout
28 [[-0.16805523  0.42741629  -0.36935782
                                          0.26991325]] B1
29 [ 0.46868625 0.86056214 -0.03218233 0.21554575]
                                          0.124050341
30
   [-0.2240542 -0.13621012 -0.14895285
31
    [-0.43674814 - 0.11134655 - 0.14554395 - 0.22328659]
32
    0.5387524
                  0.13730606 -0.69082261
                                           0.18845694]] W1
33 [[0.4608018]] B2
34 [[ 0.46745685]
35
   [ 0.15582044]
36
    [-0.79847416]
37
    [ 0.07491784]] W2
38 [[0. 0. 0. 0.]] hidout
39 [[0.22164109 0.20088388 0.93491544 0.85909591]] B1
40 [[-0.09239875 -0.51458626 -0.87490153 -0.50712377]
41
   [-0.03763081 - 0.20746946 - 0.41457113 - 0.18943822]
42
    [0.13690206 \quad 0.35150758 \quad -0.16682418 \quad -0.40794695]
43
   [ 0.11914696
                  0.06523727 -0.19738881 0.63157792]] W1
44 [[0.60435275]] B2
45 [[0.10819523]
46 [0.36752961]
47
    [0.05083359]
   [0.036519 ]] W2
48
49 [[0. 0. 0. 0.]] hidout
50 [[-0.07001071 -0.34232668 -0.35762885 -0.37141021]] B1
```

```
51 [[ 0.74627378 -0.02995737 -0.54535222 -0.1517735 ]
   [ 0.59170541 -0.43251277 0.6691411
                                          1.450895
53
    [ 0.43397549  0.32357884  0.57208865  0.09802724]
   [ 0.07534211 -0.4409963 -0.05736121 -1.1755986 ]] W1
55 [[-0.27255143]] B2
56 [[ 0.02145832]
57
   [-0.10236706]
58
   [ 0.28275245]
59 [-0.35590774]] W2
60 [[0. 0. 0. 0.]] hidout
61 [[ 0.32789185 -1.10212416 -0.23651783 0.22158349]] B1
62 [[ 0.20404658 -0.08246908 -0.22187386 -0.16031011]
63
   [-0.11913097 -0.05923264 0.46578277 0.19207483]
64
   [ 0.34237823 -0.1097352  0.22975698  0.6114557 ]
   [-0.01393367 -0.38355305 0.26348295 0.24278536]] W1
65
66 [[-1.03245521]] B2
67 [[ 0.92067098]
68
   [-0.01664038]
69 [ 0.53597653]
   [-0.10677798]] W2
70
71 [[0. 0. 0. 0.]] hidout
72 [[0.93588516 0.13392496 0.04277759 0.66949597]] B1
73 [[ 0.60026339  0.39140267  -0.29341498  -0.99390743]
74 [-0.67939886 -0.24430558 0.35946826 -0.45979833]
75 [ 0.3767929 -0.28402259 0.27376264 0.28467915]
76 [ 0.06863466 -0.83481119 -0.17885034 -0.24564686]] W1
77 [[-1.88382441]] B2
78 [[-0.45162081]
79 [ 0.14435469]
  [-0.0528535 ]
80
   [ 0.77022488]] W2
82 [[0. 0. 0. 0.]] hidout
83 [[-0.06975549 -0.68581766 -0.28741859 0.26199747]] B1
84 [[-0.97908163 -0.32639275 0.7060955
                                         0.354188191
85 [ 1.24932246  0.68909103  1.05665844  0.44733066]
    [-0.02444845 -0.48679974 0.16546972 0.57188627]
86
    [ 0.0725374 -0.20606247 0.27321729 -0.50466779]] W1
87
88 [[-0.301311]] B2
89 [[-0.22284106]
90 [ 0.41584355]
91 [ 0.02798613]
92
   [-0.37684208]] W2
93 [[0. 0. 0. 0.]] hidout
94 [[-0.29811023 -0.27041615 -0.73164247 0.32806268]] B1
95 [[-2.39667743e-01 -7.39956949e-01 -6.57372752e-04 -4.
   89097780e-02]
96
   [-1.08092970e-01 2.18732892e-01 -1.46137681e-01 -3.
   17678377e-011
97 [ 8.21143325e-02 -3.86067258e-01 -1.22527173e+00 -4.
   78816713e-021
```

```
[ 1.37074260e-01 -9.37434641e-02 1.42322362e-01
   15432521e-01]] W1
99 [[0.62306882]] B2
100 [[-0.2523362]
101 [-0.3650148]
102
    [-0.6082042]
103 [ 0.50091549]] W2
104 [[0. 0. 0. 0.]] hidout
105 [[-0.38982458 0.24452913 0.76031474 0.94003252]] B1
106 [ 0.15857118 -0.36315776 -0.35062006 -0.72065703]
107 [ 0.13178588  0.16986997  0.3187708
                                           0.49207617]
108 [-0.14659055 -0.24320592 -0.02588965 -0.78574024]
109 [ 0.40555652  0.30785338  1.3493213  0.07984603]] W1
110 [[0.40577507]] B2
111 [[ 7.16601415e-01]
112 [-5.74445678e-01]
113 [-1.08324735e-01]
114 [-5.98542728e-06]] W2
115 [[0. 0. 0. 0.]] hidout
116 [[ 0.10037536 -0.44305723  0.18204784 -0.31541585]] B1
117 [[-0.08723377 -0.70403984 0.09232909 -0.44965729]
118 [ 0.53028221 -0.69654171 0.20404996 -0.64992125]
119 \quad [-0.09315192 \quad 1.4345958 \quad -0.13252999 \quad 0.16704063]
120 [ 0.49004652 -0.68724344 -0.82614326 -0.36675445]] W1
121 [[0.08299392]] B2
122 [[-0.2260687]
123 [-0.88385211]
    [ 0.77082668]
124
125 [ 0.10441446]] W2
126 [[0. 0. 0. 0.]] hidout
127 trainPerf [100.
                       68.75 68.75 100. 68.75 100.
                                                          68.
   75 100.
               93.75 100. ]
128 testPerf [100.
                      93.75 93.75 100. 93.75 100.
                                                        100
                           1
               93.75 100.
        100.
129 trainMSE [0.01882235 0.01585186 0.0151493 0.0288926 0.
    01305074 0.0158799
    0.02262721 0.02062755 0.01325639 0.029057091
131 testMSE [0.00241728 0.05093214 0.05069956 0.00345997 0.
   05069824 0.00147599
    0.00236842 0.00293957 0.05079816 0.00397172]
133 Epochs [2056. 3000. 3000. 1866. 3000. 2115. 3000. 1776.
    3000. 1663.]
134 Time [1.71796775 2.48498011 2.48609686 1.55627322 2.
   47912383 1.76087189
135
   2.51198006 1.49890614 2.52506328 1.43738389]
136 86.875 14.908575552345704
137 97.5 3.0618621784789726
138 2.045864701271057 0.46033516770117866
139
140 Process finished with exit code 0
```