```
1 "C:\Program Files\Java\jdk-13\bin\java.exe" "-
   javaagent:C:\Program Files\JetBrains\IntelliJ IDEA
   Community Edition 2020.2.1\lib\idea_rt.jar=53540:C:\
   Program Files\JetBrains\IntelliJ IDEA Community
   Edition 2020.2.1\bin" -Dfile.encoding=UTF-8 -
   classpath C:\Users\bq16pz\IdeaProjects\NeuralNetwork\
   out\production\NeuralNetwork;C:\Users\bg16pz\
   Downloads\Jama-1.0.2.jar NeuralNetwork
2 Epoch: 200 | MSE: 3.0384676
 3 Epoch: 400 | MSE: 3.0053558
 4 Epoch: 600 | MSE: 2.9782605
 5 Epoch: 800 | MSE: 2.9531722
 6 Epoch: 1000 | MSE: 2.9305544
 7 Epoch: 1200 | MSE: 2.911114
8 Epoch: 1400 | MSE: 2.8949335
 9 Epoch: 1600 | MSE: 2.8815427
10 Epoch: 1800 | MSE: 2.8703487
11 Epoch: 2000 | MSE: 2.860822
12 Epoch: 2200 | MSE: 2.8525317
13 Epoch: 2400 | MSE: 2.8451974
14 Epoch: 2600 | MSE: 2.8386083
15 Epoch: 2800 | MSE: 2.8326006
16 Epoch: 3000 | MSE: 2.827059
17 Epoch: 3200 | MSE: 2.821952
18 Epoch: 3400 | MSE: 2.8172016
19 Epoch: 3600 | MSE: 2.8127513
20 Epoch: 3800 | MSE: 2.8085372
21 Epoch: 4000 | MSE: 2.8045433
22 Epoch: 4200 | MSE: 2.8007438
23 Epoch: 4400 | MSE: 2.797102
24 Epoch: 4600 | MSE: 2.79363
25 Epoch: 4800 | MSE: 2.7902694
26 Epoch: 5000 | MSE: 2.7870176
27 Epoch: 5200 | MSE: 2.7838514
28 Epoch: 5400 | MSE: 2.780779
29 Epoch: 5600 | MSE: 2.7777402
30 Epoch: 5800 | MSE: 2.774741
31 Epoch: 6000 | MSE: 2.7717607
32 Epoch: 6200 | MSE: 2.7687294
33 Epoch: 6400 | MSE: 2.765611
34 Epoch: 6600 | MSE: 2.7623563
```

```
35 Epoch: 6800 | MSE: 2.7588968
36 Epoch: 7000 | MSE: 2.755129
37 Epoch: 7200 | MSE: 2.7509272
38 Epoch: 7400 | MSE: 2.746213
39 Epoch: 7600 | MSE: 2.7408717
40 Epoch: 7800 | MSE: 2.7348228
41 Epoch: 8000 | MSE: 2.728106
42 Epoch: 8200 | MSE: 2.720716
43 Epoch: 8400 | MSE: 2.712759
44 Epoch: 8600 | MSE: 2.7043242
45 Epoch: 8800 | MSE: 2.6954308
46 Epoch: 9000 | MSE: 2.6861978
47 Epoch: 9200 | MSE: 2.6766899
48 Epoch: 9400 | MSE: 2.666963
49 Epoch: 9600 | MSE: 2.6570995
50 Epoch: 9800 | MSE: 2.6471543
51 Epoch: 10000 | MSE: 2.6370983
52 -----
53 Training complete!
54 Hidden nodes used: 8
55 Learning rate: 0.15
56 Final Mean Squared Error: 2.6370983
57 Input: [1.0,0.0,1.0,1.0] | Guess: 0 | Expected: 0.0
    | SE: 0.017682769947102495
58 Input: [1.0,1.0,0.0,0.0] | Guess: 1 | Expected: 1.0
    | SE: 0.20116500832187967
59 Input: [1.0,1.0,0.0,1.0] | Guess: 1 | Expected: 0.0
    | SE: 0.35513374908180495
60 Input: [1.0,1.0,1.0,0.0] | Guess: 0 | Expected: 0.0
    | SE: 0.04795558810147682
61 Input: [1.0,1.0,1.0,1.0] | Guess: 1 | Expected: 1.0
    | SE: 0.12170261034217233
62 Input: [0.0,0.0,0.0,0.0] | Guess: 1 | Expected: 1.0
    | SE: 0.18190801439465076
63 Input: [0.0,0.0,0.0,1.0] | Guess: 1 | Expected: 0.0
    | SE: 0.45394193143701855
64 Input: [0.0,0.0,1.0,0.0] | Guess: 0 | Expected: 0.0
    | SE: 0.007395393083864443
65 Input: [0.0,0.0,1.0,1.0] | Guess: 1 | Expected: 1.0
    | SE: 0.09229718442340129
```

```
File - NeuralNetwork
 66 Input: [0.0,1.0,0.0,0.0] | Guess: 1 | Expected: 0.0
     | SE: 0.4540879604171586
 67 Input: [0.0,1.0,0.0,1.0] | Guess: 1 | Expected: 1.0
     | SE: 0.11306771499484114
 68 Input: [0.0,1.0,1.0,0.0] | Guess: 1 | Expected: 1.0
     | SE: 0.08188552849575004
 69 The ANN made 9 correct guesses.
 70 This is 0.75 percent accuracy
 71 Input: [1.0,0.0,1.0,0.0] | Guess: 0 | Expected: 0.0
     | SE: 7.285152748282009E-7
 72 Input: [1.0,0.0,0.0,1.0] | Guess: 1 | Expected: 1.0
     | SE: 0.22414638498163697
 73 Input: [1.0,0.0,0.0,0.0] | Guess: 0 | Expected: 0.0
     | SE: 0.0013813979090651074
 74 Input: [0.0,1.0,1.0,1.0] | Guess: 1 | Expected: 0.0
     | SE: 0.5559445807157317
 75 The ANN made 3 correct guesses.
 76 This is 0.75 percent accuracy
 77
 78 Process finished with exit code 0
 79
```