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1  Defining training patterns...
2  patterns =
3      1.0000    3.0000    3.5000    0.5000
4      -0.5000    1.2500    1.7500    0.2500
5      -1.0000    2.5000    3.5000    0.5000
6  Calculating mean values...
7  ms =
8      2.0000    0.6875    1.3750
9  Calculating deviations...
10 ss =
11     1.2748    0.8728    1.7455    1.0000    2.0000    1.5234
12 Calculating covariance coefficients...
13 p =
14     0.8988    0.8988    1.0000
15 Selecting characteristic to eliminate...
16 elim =
17     2
18 Calculating city-block distances as a formatted square matrix...
19 d =
20         0    5.5000    7.0000    2.0000
21         0         0    1.5000    4.5000
22         0         0         0    6.0000
23         0         0         0         0
24 Running chain algorithm to implement unsupervised learning...
25 a =
26     2.0000    4.5000    1.5000    7.0000
27 t =
28     1     4     2     3     1
29 Checking "a"s histogram...
30 mx =
31     2     4
32 Getting final classes...
33 ans =
34     1     4
35 ans =
36     2     3
37 Augmenting pattern coordinates...
38 aug_patterns =
39     1.0000    3.0000    3.5000    0.5000
40    -1.0000    2.5000    3.5000    0.5000
41     1.0000    1.0000    1.0000    1.0000
42 Initializing perceptron training...
43 w =
44     0
45     0
46     0
47 r =
48     0.5000
49 sgn =
50     1    -1    -1     1
51 Training with perceptron algorithm...
52 Just finished epoch #1 with 1/4 not-updated weights.
53 Just finished epoch #2 with 3/4 not-updated weights.
54 Just finished epoch #3 with 4/4 not-updated weights.
55 After a total of #3 epochs, the final weights are:
56 w =
57    -0.5000

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58      -1.2500
59      1.0000
60  Final calculations are:
61  ans =
62      1.7500  -3.6250  -5.1250   0.1250
63  Checking unknown pattern:
64  x =
65      1.0000
66      0.5000
67      1.0000
68  res =
69      -0.7500
70  Pattern belongs to class #2
```