150

J is [['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']]

normalizing the entire dataset:

[[4.9 3. 1.4 0.2]

[5.5 3.5 1.3 0.2]

[5.1 3.3 1.7 0.5]

[7.4 2.8 6.1 1.9]

[6.3 2.8 5.1 1.5]

[6.1 2.8 4.7 1.2]

[5.8 2.7 3.9 1.2]

[6.4 3.2 4.5 1.5]

[5.2 4.1 1.5 0.1]

[7.7 3.8 6.7 2.2]

[6.8 3.2 5.9 2.3]

[4.6 3.4 1.4 0.3]

[6.7 3.1 5.6 2.4]

[6.4 3.2 5.3 2.3]

[6.2 2.9 4.3 1.3]

[6.3 3.3 4.7 1.6]

[5.5 2.4 3.8 1.1]

[7.1 3. 5.9 2.1]

[4.6 3.2 1.4 0.2]

[6.5 3. 5.2 2. ]

[6.4 3.1 5.5 1.8]

[6.4 2.8 5.6 2.2]

[4.9 3.1 1.5 0.1]

[6.7 2.5 5.8 1.8]

[5.9 3.2 4.8 1.8]

[7.7 2.6 6.9 2.3]

[4.4 3.2 1.3 0.2]

[4.4 3. 1.3 0.2]

[6. 2.2 4. 1. ]

[5.4 3.7 1.5 0.2]

[6.5 3. 5.8 2.2]

[6.3 2.3 4.4 1.3]

[5.5 2.3 4. 1.3]

[5. 2. 3.5 1. ]

[5.1 3.7 1.5 0.4]

[5.7 2.9 4.2 1.3]

[6.1 3. 4.6 1.4]

[5.6 2.9 3.6 1.3]

[6.8 3. 5.5 2.1]

[4.5 2.3 1.3 0.3]

[4.9 2.5 4.5 1.7]

[6.1 3. 4.9 1.8]

[4.7 3.2 1.3 0.2]

[6.3 2.5 4.9 1.5]

[6.9 3.1 5.4 2.1]

[5.6 3. 4.5 1.5]

[5.7 2.5 5. 2. ]

[5.3 3.7 1.5 0.2]

[5. 3.6 1.4 0.2]

[6.3 3.4 5.6 2.4]

[5. 3.3 1.4 0.2]

[4.8 3. 1.4 0.1]

[4.3 3. 1.1 0.1]

[7.3 2.9 6.3 1.8]

[5. 2.3 3.3 1. ]

[5.8 2.7 5.1 1.9]

[6.2 2.8 4.8 1.8]

[5.1 3.5 1.4 0.2]

[5.7 3.8 1.7 0.3]

[6.2 3.4 5.4 2.3]

[5.8 2.8 5.1 2.4]

[5.5 2.4 3.7 1. ]

[7.7 2.8 6.7 2. ]

[5.7 2.6 3.5 1. ]

[6.3 3.3 6. 2.5]

[7.2 3. 5.8 1.6]

[4.7 3.2 1.6 0.2]

[7. 3.2 4.7 1.4]

[6. 3. 4.8 1.8]

[5. 3.4 1.5 0.2]

[5.1 3.8 1.5 0.3]

[5.6 2.8 4.9 2. ]

[5.1 3.5 1.4 0.3]

[5.4 3.9 1.7 0.4]

[5.2 2.7 3.9 1.4]

[6. 2.2 5. 1.5]

[7.2 3.2 6. 1.8]

[5.2 3.4 1.4 0.2]

[6.5 2.8 4.6 1.5]

[5.5 4.2 1.4 0.2]

[5.4 3.4 1.5 0.4]

[4.9 2.4 3.3 1. ]

[6.1 2.9 4.7 1.4]

[5.6 2.7 4.2 1.3]

[6.4 2.7 5.3 1.9]

[6.1 2.8 4. 1.3]

[4.6 3.6 1. 0.2]

[7.6 3. 6.6 2.1]

[5.4 3.9 1.3 0.4]

[6. 3.4 4.5 1.6]

[5.1 3.4 1.5 0.2]

[4.8 3.1 1.6 0.2]

[5.7 2.8 4.5 1.3]

[5.8 2.6 4. 1.2]

[6.1 2.6 5.6 1.4]

[6.9 3.2 5.7 2.3]

[5. 3.2 1.2 0.2]

[6.9 3.1 5.1 2.3]

[6.7 3.1 4.7 1.5]

[6. 2.7 5.1 1.6]

[5.9 3. 5.1 1.8]

[6.5 3. 5.5 1.8]

[5.4 3.4 1.7 0.2]

[5.7 2.8 4.1 1.3]

[5.8 2.7 5.1 1.9]

[5.8 4. 1.2 0.2]

[4.8 3. 1.4 0.3]

[5.2 3.5 1.5 0.2]

[5.4 3. 4.5 1.5]

[6.6 2.9 4.6 1.3]

[5. 3.5 1.3 0.3]

[4.4 2.9 1.4 0.2]

[5. 3.5 1.6 0.6]

[5. 3.4 1.6 0.4]

[4.9 3.1 1.5 0.1]

[7.2 3.6 6.1 2.5]

[6.8 2.8 4.8 1.4]

[6.3 2.5 5. 1.9]

[5.7 3. 4.2 1.2]

[5.1 3.8 1.6 0.2]

[6.9 3.1 4.9 1.5]

[5.6 2.5 3.9 1.1]

[6.7 3.3 5.7 2.5]

[5.6 3. 4.1 1.3]

[6.7 3.3 5.7 2.1]

[6.2 2.2 4.5 1.5]

[6.4 2.9 4.3 1.3]

[5.5 2.5 4. 1.3]

[5. 3. 1.6 0.2]

[4.8 3.4 1.9 0.2]

[5.5 2.6 4.4 1.2]

[4.6 3.1 1.5 0.2]

[6.7 3. 5.2 2.3]

[5.8 2.7 4.1 1. ]

[6.4 2.8 5.6 2.1]

[6.7 3.1 4.4 1.4]

[6.7 3. 5. 1.7]

[6.3 2.7 4.9 1.8]

[7.7 3. 6.1 2.3]

[4.9 3.1 1.5 0.1]

[4.8 3.4 1.6 0.2]

[6.6 3. 4.4 1.4]

[6.3 2.9 5.6 1.8]

[5.7 4.4 1.5 0.4]

[5.9 3. 4.2 1.5]

[5.1 2.5 3. 1.1]

[6.5 3.2 5.1 2. ]

[6. 2.9 4.5 1.5]

[7.9 3.8 6.4 2. ]

[5.1 3.8 1.9 0.4]]

Before normalizing

Leaf node for set class is Iris-virginica 21

Leaf node for set class is Iris-virginica 6

Leaf node for set class is Iris-virginica 5

Leaf node for set class is Iris-versicolor 18

Leaf node for set class is Iris-versicolor 25

Leaf node for set class is Iris-setosa 45

Accuracy is 1.0

Leaf node for set class is Iris-virginica 39

Leaf node for set class is Iris-versicolor 9

Leaf node for set class is Iris-versicolor 26

Leaf node for set class is Iris-setosa 45

Accuracy is 0.9333333333333333

Leaf node for set class is Iris-virginica 25

Leaf node for set class is Iris-virginica 12

Leaf node for set class is Iris-versicolor 15

Leaf node for set class is Iris-versicolor 23

Leaf node for set class is Iris-setosa 47

Accuracy is 1.0

Leaf node for set class is Iris-virginica 23

Leaf node for set class is Iris-virginica 11

Leaf node for set class is Iris-versicolor 18

Leaf node for set class is Iris-versicolor 27

Leaf node for set class is Iris-setosa 43

Accuracy is 1.0

Leaf node for set class is Iris-virginica 22

Leaf node for set class is Iris-virginica 13

Leaf node for set class is Iris-versicolor 15

Leaf node for set class is Iris-versicolor 26

Leaf node for set class is Iris-setosa 45

Accuracy is 1.0

Leaf node for set class is Iris-virginica 23

Leaf node for set class is Iris-virginica 13

Leaf node for set class is Iris-versicolor 16

Leaf node for set class is Iris-versicolor 25

Leaf node for set class is Iris-setosa 45

Accuracy is 1.0

Leaf node for set class is Iris-virginica 11

Leaf node for set class is Iris-virginica 5

Leaf node for set class is Iris-virginica 18

Leaf node for set class is Iris-versicolor 18

Leaf node for set class is Iris-versicolor 25

Leaf node for set class is Iris-setosa 46

Accuracy is 0.9333333333333333

Leaf node for set class is Iris-virginica 24

Leaf node for set class is Iris-virginica 6

Leaf node for set class is Iris-virginica 4

Leaf node for set class is Iris-versicolor 17

Leaf node for set class is Iris-versicolor 26

Leaf node for set class is Iris-setosa 41

Accuracy is 1.0

Leaf node for set class is Iris-virginica 22

Leaf node for set class is Iris-virginica 6

Leaf node for set class is Iris-virginica 6

Leaf node for set class is Iris-versicolor 17

Leaf node for set class is Iris-versicolor 6

Leaf node for set class is Iris-versicolor 11

Leaf node for set class is Iris-setosa 46

Accuracy is 0.9333333333333333

Leaf node for set class is Iris-virginica 22

Leaf node for set class is Iris-virginica 10

Leaf node for set class is Iris-virginica 5

Leaf node for set class is Iris-versicolor 3

Leaf node for set class is Iris-virginica 5

Leaf node for set class is Iris-versicolor 17

Leaf node for set class is Iris-versicolor 13

Leaf node for set class is Iris-versicolor 6

Leaf node for set class is Iris-setosa 45

Accuracy is 0.8666666666666667

Accuracy across 10-cross validation for 0.05 is 0.9666666666666668

Standard deviation across 10-cross validation for 0.05 is 0.047140452079103154

150

J is [['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']]

normalizing the entire dataset:

[[6.1 3. 4.6 1.4]

[5.4 3.7 1.5 0.2]

[5.7 2.8 4.1 1.3]

[6.7 3.1 4.7 1.5]

[4.9 2.5 4.5 1.7]

[6.6 3. 4.4 1.4]

[6.1 2.8 4.7 1.2]

[5.4 3.9 1.3 0.4]

[5. 3.5 1.3 0.3]

[6.4 2.9 4.3 1.3]

[6.3 3.3 6. 2.5]

[4.3 3. 1.1 0.1]

[4.4 2.9 1.4 0.2]

[5.7 2.8 4.5 1.3]

[6.1 3. 4.9 1.8]

[4.5 2.3 1.3 0.3]

[5. 3.4 1.5 0.2]

[7.2 3. 5.8 1.6]

[5. 3.6 1.4 0.2]

[6. 3. 4.8 1.8]

[5.4 3.4 1.5 0.4]

[5.9 3.2 4.8 1.8]

[7.1 3. 5.9 2.1]

[4.6 3.1 1.5 0.2]

[5.8 2.7 5.1 1.9]

[7.4 2.8 6.1 1.9]

[6.5 3. 5.5 1.8]

[5.2 4.1 1.5 0.1]

[6.4 3.2 5.3 2.3]

[5.8 4. 1.2 0.2]

[5.7 2.5 5. 2. ]

[5.8 2.7 5.1 1.9]

[4.8 3.4 1.6 0.2]

[5.8 2.7 4.1 1. ]

[5. 3. 1.6 0.2]

[4.7 3.2 1.3 0.2]

[5. 3.3 1.4 0.2]

[6.7 3.3 5.7 2.5]

[5.7 2.6 3.5 1. ]

[4.6 3.2 1.4 0.2]

[6.2 2.2 4.5 1.5]

[6.3 2.8 5.1 1.5]

[5.1 3.3 1.7 0.5]

[5.3 3.7 1.5 0.2]

[6.3 2.7 4.9 1.8]

[7.7 2.6 6.9 2.3]

[4.6 3.6 1. 0.2]

[6.1 2.9 4.7 1.4]

[6.3 2.3 4.4 1.3]

[5.5 2.6 4.4 1.2]

[5. 3.5 1.6 0.6]

[6.3 2.5 5. 1.9]

[5.1 3.7 1.5 0.4]

[7.9 3.8 6.4 2. ]

[6.9 3.1 5.4 2.1]

[5.5 2.5 4. 1.3]

[4.7 3.2 1.6 0.2]

[6. 2.7 5.1 1.6]

[6. 3.4 4.5 1.6]

[6.7 2.5 5.8 1.8]

[7.7 3. 6.1 2.3]

[4.8 3. 1.4 0.3]

[7.6 3. 6.6 2.1]

[5.6 3. 4.1 1.3]

[5.1 3.8 1.5 0.3]

[6.5 3. 5.2 2. ]

[5.4 3.4 1.7 0.2]

[5.2 3.5 1.5 0.2]

[4.9 3.1 1.5 0.1]

[4.4 3. 1.3 0.2]

[5.8 2.8 5.1 2.4]

[5.8 2.6 4. 1.2]

[6.9 3.2 5.7 2.3]

[7.2 3.2 6. 1.8]

[6.4 3.2 4.5 1.5]

[7.2 3.6 6.1 2.5]

[6.2 3.4 5.4 2.3]

[6.8 3. 5.5 2.1]

[6.1 2.8 4. 1.3]

[6.8 3.2 5.9 2.3]

[5.4 3. 4.5 1.5]

[6.3 3.4 5.6 2.4]

[4.8 3.1 1.6 0.2]

[5. 2. 3.5 1. ]

[6.4 2.7 5.3 1.9]

[6.4 2.8 5.6 2.2]

[4.9 2.4 3.3 1. ]

[6.6 2.9 4.6 1.3]

[5.1 3.8 1.6 0.2]

[5. 3.4 1.6 0.4]

[7.7 2.8 6.7 2. ]

[5.5 4.2 1.4 0.2]

[5. 3.2 1.2 0.2]

[6.4 2.8 5.6 2.1]

[4.6 3.4 1.4 0.3]

[6. 2.9 4.5 1.5]

[6.3 2.5 4.9 1.5]

[4.9 3.1 1.5 0.1]

[5.1 3.4 1.5 0.2]

[6.7 3. 5. 1.7]

[5.1 3.5 1.4 0.3]

[4.9 3. 1.4 0.2]

[5.2 2.7 3.9 1.4]

[6.5 3. 5.8 2.2]

[5.6 2.8 4.9 2. ]

[5.7 2.9 4.2 1.3]

[5.7 4.4 1.5 0.4]

[6.5 2.8 4.6 1.5]

[5. 2.3 3.3 1. ]

[6.2 2.9 4.3 1.3]

[7. 3.2 4.7 1.4]

[5.7 3. 4.2 1.2]

[4.4 3.2 1.3 0.2]

[6.9 3.1 4.9 1.5]

[5.9 3. 4.2 1.5]

[4.8 3.4 1.9 0.2]

[6.7 3.1 5.6 2.4]

[5.9 3. 5.1 1.8]

[4.8 3. 1.4 0.1]

[6.2 2.8 4.8 1.8]

[4.9 3.1 1.5 0.1]

[6.7 3. 5.2 2.3]

[5.5 2.3 4. 1.3]

[6. 2.2 4. 1. ]

[6.5 3.2 5.1 2. ]

[5.1 3.8 1.9 0.4]

[5.5 2.4 3.7 1. ]

[5.5 3.5 1.3 0.2]

[6.7 3.1 4.4 1.4]

[6.8 2.8 4.8 1.4]

[5.5 2.4 3.8 1.1]

[5.6 3. 4.5 1.5]

[5.6 2.7 4.2 1.3]

[6.3 2.9 5.6 1.8]

[7.7 3.8 6.7 2.2]

[5.2 3.4 1.4 0.2]

[6.3 3.3 4.7 1.6]

[6.7 3.3 5.7 2.1]

[5.4 3.9 1.7 0.4]

[6. 2.2 5. 1.5]

[7.3 2.9 6.3 1.8]

[5.6 2.9 3.6 1.3]

[6.4 3.1 5.5 1.8]

[5.1 2.5 3. 1.1]

[6.9 3.1 5.1 2.3]

[5.6 2.5 3.9 1.1]

[5.1 3.5 1.4 0.2]

[5.8 2.7 3.9 1.2]

[6.1 2.6 5.6 1.4]

[5.7 3.8 1.7 0.3]]

Before normalizing

Leaf node for set class is Iris-virginica 25

Leaf node for set class is Iris-virginica 12

Leaf node for set class is Iris-versicolor 18

Leaf node for set class is Iris-versicolor 22

Leaf node for set class is Iris-setosa 45

Accuracy is 0.9333333333333333

Leaf node for set class is Iris-virginica 10

Leaf node for set class is Iris-virginica 21

Leaf node for set class is Iris-versicolor 20

Leaf node for set class is Iris-versicolor 11

Leaf node for set class is Iris-versicolor 16

Leaf node for set class is Iris-setosa 43

Accuracy is 0.8666666666666667

Leaf node for set class is Iris-virginica 27

Leaf node for set class is Iris-virginica 10

Leaf node for set class is Iris-versicolor 21

Leaf node for set class is Iris-versicolor 15

Leaf node for set class is Iris-setosa 43

Accuracy is 0.9333333333333333

Leaf node for set class is Iris-virginica 26

Leaf node for set class is Iris-virginica 11

Leaf node for set class is Iris-versicolor 17

Leaf node for set class is Iris-versicolor 15

Leaf node for set class is Iris-setosa 46

Accuracy is 0.8666666666666667

Leaf node for set class is Iris-virginica 24

Leaf node for set class is Iris-virginica 10

Leaf node for set class is Iris-versicolor 21

Leaf node for set class is Iris-versicolor 15

Leaf node for set class is Iris-setosa 44

Accuracy is 1.0

Leaf node for set class is Iris-virginica 25

Leaf node for set class is Iris-virginica 9

Leaf node for set class is Iris-versicolor 21

Leaf node for set class is Iris-versicolor 13

Leaf node for set class is Iris-setosa 47

Accuracy is 1.0

Leaf node for set class is Iris-virginica 27

Leaf node for set class is Iris-virginica 10

Leaf node for set class is Iris-versicolor 22

Leaf node for set class is Iris-versicolor 15

Leaf node for set class is Iris-setosa 43

Accuracy is 0.9333333333333333

Leaf node for set class is Iris-virginica 28

Leaf node for set class is Iris-virginica 10

Leaf node for set class is Iris-versicolor 18

Leaf node for set class is Iris-versicolor 15

Leaf node for set class is Iris-setosa 46

Accuracy is 1.0

Leaf node for set class is Iris-virginica 26

Leaf node for set class is Iris-virginica 10

Leaf node for set class is Iris-versicolor 20

Leaf node for set class is Iris-setosa 46

Accuracy is 0.9333333333333333

Leaf node for set class is Iris-virginica 27

Leaf node for set class is Iris-virginica 10

Leaf node for set class is Iris-versicolor 20

Leaf node for set class is Iris-setosa 44

Accuracy is 0.8666666666666667

Accuracy across 10-cross validation for 0.1 is 0.9333333333333333

Standard deviation across 10-cross validation for 0.1 is 0.05443310539518172

150

J is [['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']]

normalizing the entire dataset:

[[5. 3.2 1.2 0.2]

[6.4 3.1 5.5 1.8]

[5.7 2.9 4.2 1.3]

[6.1 2.6 5.6 1.4]

[6.2 3.4 5.4 2.3]

[6.1 2.8 4.7 1.2]

[5.8 2.7 4.1 1. ]

[4.3 3. 1.1 0.1]

[5.1 3.5 1.4 0.2]

[4.6 3.6 1. 0.2]

[5.1 3.5 1.4 0.3]

[4.7 3.2 1.6 0.2]

[5.7 4.4 1.5 0.4]

[5.8 2.8 5.1 2.4]

[5.8 2.6 4. 1.2]

[6.3 2.3 4.4 1.3]

[6.4 3.2 4.5 1.5]

[4.4 3. 1.3 0.2]

[4.8 3. 1.4 0.1]

[5.6 3. 4.5 1.5]

[4.6 3.4 1.4 0.3]

[4.8 3.4 1.6 0.2]

[5.7 3. 4.2 1.2]

[6.7 2.5 5.8 1.8]

[5.2 3.5 1.5 0.2]

[5. 3.3 1.4 0.2]

[5. 3.5 1.6 0.6]

[7.9 3.8 6.4 2. ]

[6. 2.7 5.1 1.6]

[5.8 2.7 5.1 1.9]

[7.7 3. 6.1 2.3]

[4.4 3.2 1.3 0.2]

[5.7 3.8 1.7 0.3]

[6. 3. 4.8 1.8]

[5.6 3. 4.1 1.3]

[5.1 3.7 1.5 0.4]

[5.9 3. 5.1 1.8]

[6.3 2.8 5.1 1.5]

[5.2 2.7 3.9 1.4]

[5.6 2.5 3.9 1.1]

[5. 3. 1.6 0.2]

[4.9 2.5 4.5 1.7]

[5.6 2.8 4.9 2. ]

[5.8 2.7 5.1 1.9]

[7.2 3.6 6.1 2.5]

[6.4 2.9 4.3 1.3]

[6.4 2.8 5.6 2.1]

[5.1 3.8 1.9 0.4]

[6.5 2.8 4.6 1.5]

[5.1 3.8 1.6 0.2]

[6.7 3.1 4.7 1.5]

[5.7 2.5 5. 2. ]

[5. 2. 3.5 1. ]

[7.3 2.9 6.3 1.8]

[6.7 3.3 5.7 2.5]

[5.7 2.6 3.5 1. ]

[6.3 3.3 6. 2.5]

[4.9 3. 1.4 0.2]

[6. 3.4 4.5 1.6]

[7.2 3.2 6. 1.8]

[4.9 2.4 3.3 1. ]

[5.8 4. 1.2 0.2]

[6.8 2.8 4.8 1.4]

[5.1 3.8 1.5 0.3]

[4.6 3.2 1.4 0.2]

[4.6 3.1 1.5 0.2]

[6.4 2.7 5.3 1.9]

[6.1 2.8 4. 1.3]

[6.7 3.1 5.6 2.4]

[6.8 3. 5.5 2.1]

[5.4 3.7 1.5 0.2]

[4.9 3.1 1.5 0.1]

[6. 2.2 4. 1. ]

[7.6 3. 6.6 2.1]

[6. 2.9 4.5 1.5]

[7.2 3. 5.8 1.6]

[6.7 3.3 5.7 2.1]

[6.2 2.2 4.5 1.5]

[6.5 3. 5.5 1.8]

[6.2 2.9 4.3 1.3]

[7. 3.2 4.7 1.4]

[5.8 2.7 3.9 1.2]

[5.5 2.6 4.4 1.2]

[4.5 2.3 1.3 0.3]

[5.5 4.2 1.4 0.2]

[6.9 3.1 5.1 2.3]

[4.4 2.9 1.4 0.2]

[5.9 3. 4.2 1.5]

[6. 2.2 5. 1.5]

[6.1 3. 4.9 1.8]

[5. 3.4 1.6 0.4]

[5.7 2.8 4.1 1.3]

[5.4 3.9 1.7 0.4]

[6.9 3.1 4.9 1.5]

[5.4 3.4 1.5 0.4]

[4.9 3.1 1.5 0.1]

[5.5 2.3 4. 1.3]

[6.4 3.2 5.3 2.3]

[4.9 3.1 1.5 0.1]

[6.5 3. 5.2 2. ]

[7.1 3. 5.9 2.1]

[5.6 2.7 4.2 1.3]

[5.4 3.9 1.3 0.4]

[5.6 2.9 3.6 1.3]

[6.1 3. 4.6 1.4]

[5.4 3. 4.5 1.5]

[5.1 2.5 3. 1.1]

[5.5 2.4 3.8 1.1]

[5.1 3.4 1.5 0.2]

[7.4 2.8 6.1 1.9]

[4.7 3.2 1.3 0.2]

[5. 3.4 1.5 0.2]

[5.1 3.3 1.7 0.5]

[5. 3.6 1.4 0.2]

[5.2 4.1 1.5 0.1]

[6.3 2.5 5. 1.9]

[7.7 2.8 6.7 2. ]

[4.8 3. 1.4 0.3]

[6.2 2.8 4.8 1.8]

[6.5 3. 5.8 2.2]

[6.3 2.9 5.6 1.8]

[4.8 3.1 1.6 0.2]

[5.3 3.7 1.5 0.2]

[5.2 3.4 1.4 0.2]

[6.7 3. 5. 1.7]

[7.7 2.6 6.9 2.3]

[6.8 3.2 5.9 2.3]

[5.4 3.4 1.7 0.2]

[6.3 3.3 4.7 1.6]

[6.6 2.9 4.6 1.3]

[6.3 2.5 4.9 1.5]

[7.7 3.8 6.7 2.2]

[6.3 3.4 5.6 2.4]

[6.3 2.7 4.9 1.8]

[6.9 3.1 5.4 2.1]

[5.9 3.2 4.8 1.8]

[5.5 3.5 1.3 0.2]

[6.7 3.1 4.4 1.4]

[4.8 3.4 1.9 0.2]

[6.9 3.2 5.7 2.3]

[6.6 3. 4.4 1.4]

[5. 2.3 3.3 1. ]

[5. 3.5 1.3 0.3]

[6.5 3.2 5.1 2. ]

[5.5 2.5 4. 1.3]

[6.4 2.8 5.6 2.2]

[6.7 3. 5.2 2.3]

[6.1 2.9 4.7 1.4]

[5.7 2.8 4.5 1.3]

[5.5 2.4 3.7 1. ]]

Before normalizing

Leaf node for set class is Iris-virginica 21

Leaf node for set class is Iris-virginica 11

Leaf node for set class is Iris-versicolor 26

Leaf node for set class is Iris-setosa 43

Accuracy is 0.9333333333333333

Leaf node for set class is Iris-virginica 23

Leaf node for set class is Iris-versicolor 26

Leaf node for set class is Iris-setosa 43

Accuracy is 1.0

Leaf node for set class is Iris-virginica 21

Leaf node for set class is Iris-versicolor 22

Leaf node for set class is Iris-versicolor 14

Leaf node for set class is Iris-setosa 46

Accuracy is 0.8666666666666667

Leaf node for set class is Iris-virginica 25

Leaf node for set class is Iris-versicolor 28

Leaf node for set class is Iris-setosa 30

Leaf node for set class is Iris-versicolor 6

Leaf node for set class is Iris-setosa 17

Accuracy is 1.0

Leaf node for set class is Iris-virginica 22

Leaf node for set class is Iris-versicolor 26

Leaf node for set class is Iris-setosa 44

Accuracy is 0.9333333333333333

Leaf node for set class is Iris-virginica 21

Leaf node for set class is Iris-versicolor 23

Leaf node for set class is Iris-setosa 34

Accuracy is 0.8666666666666667

Leaf node for set class is Iris-virginica 21

Leaf node for set class is Iris-virginica 10

Leaf node for set class is Iris-versicolor 25

Leaf node for set class is Iris-setosa 44

Accuracy is 1.0

Leaf node for set class is Iris-virginica 22

Leaf node for set class is Iris-versicolor 27

Leaf node for set class is Iris-setosa 43

Accuracy is 1.0

Leaf node for set class is Iris-virginica 21

Leaf node for set class is Iris-versicolor 22

Leaf node for set class is Iris-versicolor 16

Leaf node for set class is Iris-setosa 46

Accuracy is 0.9333333333333333

Leaf node for set class is Iris-virginica 20

Leaf node for set class is Iris-virginica 12

Leaf node for set class is Iris-versicolor 24

Leaf node for set class is Iris-setosa 45

Accuracy is 0.9333333333333333

Accuracy across 10-cross validation for 0.15 is 0.9466666666666667

Standard deviation across 10-cross validation for 0.15 is 0.05258737584977435

150

J is [['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']]

normalizing the entire dataset:

[[5.8 2.7 5.1 1.9]

[6.3 3.3 4.7 1.6]

[6. 2.7 5.1 1.6]

[5. 3.4 1.5 0.2]

[6. 3. 4.8 1.8]

[5.7 2.8 4.5 1.3]

[6.1 2.9 4.7 1.4]

[6.3 2.7 4.9 1.8]

[5.5 2.6 4.4 1.2]

[6.2 2.8 4.8 1.8]

[7.2 3. 5.8 1.6]

[5.7 2.9 4.2 1.3]

[5.4 3.4 1.5 0.4]

[5.2 3.4 1.4 0.2]

[6. 2.2 4. 1. ]

[6.2 3.4 5.4 2.3]

[4.6 3.2 1.4 0.2]

[5.8 2.8 5.1 2.4]

[7.9 3.8 6.4 2. ]

[6. 2.2 5. 1.5]

[6.3 2.3 4.4 1.3]

[4.6 3.1 1.5 0.2]

[6.7 3.1 5.6 2.4]

[6.2 2.9 4.3 1.3]

[5.9 3.2 4.8 1.8]

[5.2 4.1 1.5 0.1]

[6.5 3. 5.2 2. ]

[6.1 2.6 5.6 1.4]

[6.1 2.8 4.7 1.2]

[4.3 3. 1.1 0.1]

[5.7 3.8 1.7 0.3]

[7.1 3. 5.9 2.1]

[5.5 2.5 4. 1.3]

[4.8 3.1 1.6 0.2]

[5.6 2.9 3.6 1.3]

[6.3 3.4 5.6 2.4]

[5.8 2.6 4. 1.2]

[6.1 3. 4.6 1.4]

[6.3 2.8 5.1 1.5]

[4.9 3.1 1.5 0.1]

[5.4 3.4 1.7 0.2]

[5.7 2.8 4.1 1.3]

[6.5 3. 5.8 2.2]

[6.7 3.1 4.7 1.5]

[5.5 3.5 1.3 0.2]

[4.9 2.4 3.3 1. ]

[6.6 3. 4.4 1.4]

[7.2 3.6 6.1 2.5]

[6.4 2.7 5.3 1.9]

[5. 3.6 1.4 0.2]

[5.5 4.2 1.4 0.2]

[5. 3.2 1.2 0.2]

[6.6 2.9 4.6 1.3]

[7.3 2.9 6.3 1.8]

[6.7 3.3 5.7 2.1]

[4.8 3.4 1.9 0.2]

[4.7 3.2 1.3 0.2]

[7.7 2.6 6.9 2.3]

[7.7 3.8 6.7 2.2]

[6.5 3.2 5.1 2. ]

[5.1 3.3 1.7 0.5]

[4.6 3.4 1.4 0.3]

[5.9 3. 4.2 1.5]

[5. 3.5 1.6 0.6]

[6.3 2.5 5. 1.9]

[6.4 2.8 5.6 2.1]

[5.6 2.5 3.9 1.1]

[5. 2. 3.5 1. ]

[5. 3.3 1.4 0.2]

[5. 3. 1.6 0.2]

[5.5 2.3 4. 1.3]

[6.7 2.5 5.8 1.8]

[5.5 2.4 3.8 1.1]

[5.1 3.8 1.6 0.2]

[7.2 3.2 6. 1.8]

[5.7 4.4 1.5 0.4]

[6.8 2.8 4.8 1.4]

[6.5 2.8 4.6 1.5]

[6. 2.9 4.5 1.5]

[5.7 2.6 3.5 1. ]

[7. 3.2 4.7 1.4]

[6.9 3.1 5.4 2.1]

[4.5 2.3 1.3 0.3]

[6.4 2.9 4.3 1.3]

[4.8 3. 1.4 0.1]

[5.8 2.7 4.1 1. ]

[6.8 3.2 5.9 2.3]

[4.9 3.1 1.5 0.1]

[5.1 3.7 1.5 0.4]

[6.7 3.1 4.4 1.4]

[6.9 3.1 4.9 1.5]

[5.7 3. 4.2 1.2]

[6.1 3. 4.9 1.8]

[5.9 3. 5.1 1.8]

[4.9 2.5 4.5 1.7]

[6.9 3.2 5.7 2.3]

[6. 3.4 4.5 1.6]

[4.4 3.2 1.3 0.2]

[5.6 3. 4.1 1.3]

[4.9 3. 1.4 0.2]

[5.4 3. 4.5 1.5]

[6.2 2.2 4.5 1.5]

[4.4 3. 1.3 0.2]

[5.1 2.5 3. 1.1]

[5.1 3.4 1.5 0.2]

[6.1 2.8 4. 1.3]

[5.8 2.7 5.1 1.9]

[7.7 2.8 6.7 2. ]

[5.2 2.7 3.9 1.4]

[6.3 2.9 5.6 1.8]

[4.8 3. 1.4 0.3]

[5.1 3.8 1.9 0.4]

[4.8 3.4 1.6 0.2]

[5.6 2.8 4.9 2. ]

[5. 3.4 1.6 0.4]

[4.6 3.6 1. 0.2]

[6.3 3.3 6. 2.5]

[5.4 3.9 1.3 0.4]

[5.6 3. 4.5 1.5]

[4.9 3.1 1.5 0.1]

[6.7 3. 5.2 2.3]

[5.7 2.5 5. 2. ]

[5.1 3.5 1.4 0.3]

[4.4 2.9 1.4 0.2]

[5. 3.5 1.3 0.3]

[5.6 2.7 4.2 1.3]

[6.4 3.2 4.5 1.5]

[6.4 2.8 5.6 2.2]

[5.4 3.7 1.5 0.2]

[6.7 3.3 5.7 2.5]

[6.9 3.1 5.1 2.3]

[5.1 3.8 1.5 0.3]

[7.6 3. 6.6 2.1]

[5.5 2.4 3.7 1. ]

[6.8 3. 5.5 2.1]

[6.4 3.1 5.5 1.8]

[5.3 3.7 1.5 0.2]

[6.3 2.5 4.9 1.5]

[6.4 3.2 5.3 2.3]

[6.7 3. 5. 1.7]

[5.4 3.9 1.7 0.4]

[4.7 3.2 1.6 0.2]

[6.5 3. 5.5 1.8]

[5.2 3.5 1.5 0.2]

[7.4 2.8 6.1 1.9]

[7.7 3. 6.1 2.3]

[5.8 2.7 3.9 1.2]

[5. 2.3 3.3 1. ]

[5.8 4. 1.2 0.2]

[5.1 3.5 1.4 0.2]]

Before normalizing

Leaf node for set class is Iris-virginica 24

Leaf node for set class is Iris-setosa 45

Accuracy is 0.7333333333333333

Leaf node for set class is Iris-virginica 21

Leaf node for set class is Iris-versicolor 23

Leaf node for set class is Iris-setosa 44

Accuracy is 0.8

Leaf node for set class is Iris-virginica 25

Leaf node for set class is Iris-versicolor 24

Leaf node for set class is Iris-setosa 45

Accuracy is 0.9333333333333333

Leaf node for set class is Iris-virginica 24

Leaf node for set class is Iris-versicolor 26

Leaf node for set class is Iris-setosa 44

Accuracy is 0.9333333333333333

Leaf node for set class is Iris-virginica 23

Leaf node for set class is Iris-versicolor 24

Leaf node for set class is Iris-setosa 44

Accuracy is 1.0

Leaf node for set class is Iris-virginica 25

Leaf node for set class is Iris-versicolor 25

Leaf node for set class is Iris-setosa 45

Accuracy is 1.0

Leaf node for set class is Iris-virginica 27

Leaf node for set class is Iris-versicolor 22

Leaf node for set class is Iris-setosa 44

Accuracy is 0.8666666666666667

Leaf node for set class is Iris-virginica 24

Leaf node for set class is Iris-versicolor 27

Leaf node for set class is Iris-setosa 43

Accuracy is 1.0

Leaf node for set class is Iris-virginica 29

Leaf node for set class is Iris-versicolor 18

Leaf node for set class is Iris-setosa 44

Accuracy is 0.9333333333333333

Leaf node for set class is Iris-virginica 25

Leaf node for set class is Iris-versicolor 26

Leaf node for set class is Iris-setosa 44

Accuracy is 0.9333333333333333

Accuracy across 10-cross validation for 0.2 is 0.9133333333333334

Standard deviation across 10-cross validation for 0.2 is 0.08916623398995058

150

J is [['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-setosa']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-versicolor']

['Iris-virginica']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-versicolor']

['Iris-virginica']

['Iris-virginica']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-versicolor']

['Iris-setosa']

['Iris-virginica']

['Iris-virginica']

['Iris-setosa']]

normalizing the entire dataset:

[[5.8 2.7 3.9 1.2]

[5.1 3.4 1.5 0.2]

[7.1 3. 5.9 2.1]

[4.9 3.1 1.5 0.1]

[5.5 2.5 4. 1.3]

[7.4 2.8 6.1 1.9]

[4.4 3. 1.3 0.2]

[6.4 3.2 5.3 2.3]

[5.6 3. 4.5 1.5]

[4.3 3. 1.1 0.1]

[5. 3.4 1.5 0.2]

[7.7 2.8 6.7 2. ]

[5.7 2.8 4.1 1.3]

[5.1 2.5 3. 1.1]

[6.8 2.8 4.8 1.4]

[5.4 3.4 1.7 0.2]

[5.9 3. 4.2 1.5]

[5. 3.2 1.2 0.2]

[6. 2.2 4. 1. ]

[4.6 3.2 1.4 0.2]

[6.1 2.8 4. 1.3]

[7.9 3.8 6.4 2. ]

[5.1 3.8 1.5 0.3]

[5.7 4.4 1.5 0.4]

[4.9 3. 1.4 0.2]

[6.2 3.4 5.4 2.3]

[6.3 3.3 6. 2.5]

[5.2 2.7 3.9 1.4]

[5.5 2.3 4. 1.3]

[5.7 3.8 1.7 0.3]

[6.8 3.2 5.9 2.3]

[5.8 2.7 5.1 1.9]

[5. 3.5 1.6 0.6]

[5.4 3.9 1.7 0.4]

[5. 3.6 1.4 0.2]

[5.5 2.4 3.8 1.1]

[4.8 3. 1.4 0.1]

[6.3 2.5 4.9 1.5]

[5.5 4.2 1.4 0.2]

[4.9 2.5 4.5 1.7]

[4.5 2.3 1.3 0.3]

[6.7 3.3 5.7 2.1]

[5.4 3. 4.5 1.5]

[5.3 3.7 1.5 0.2]

[4.8 3. 1.4 0.3]

[7.2 3.2 6. 1.8]

[6.3 3.3 4.7 1.6]

[6.1 3. 4.6 1.4]

[5.1 3.8 1.6 0.2]

[6.2 2.2 4.5 1.5]

[5.5 3.5 1.3 0.2]

[5. 2. 3.5 1. ]

[6.3 2.9 5.6 1.8]

[6.3 2.7 4.9 1.8]

[6.7 3.1 4.4 1.4]

[5.4 3.4 1.5 0.4]

[6.4 2.7 5.3 1.9]

[5.1 3.5 1.4 0.3]

[6.8 3. 5.5 2.1]

[7.7 3.8 6.7 2.2]

[7.3 2.9 6.3 1.8]

[5.6 3. 4.1 1.3]

[5.8 2.7 4.1 1. ]

[5.8 2.8 5.1 2.4]

[4.6 3.4 1.4 0.3]

[6.1 2.8 4.7 1.2]

[6.2 2.8 4.8 1.8]

[5.6 2.8 4.9 2. ]

[7.2 3.6 6.1 2.5]

[5.5 2.4 3.7 1. ]

[6.1 3. 4.9 1.8]

[6. 3.4 4.5 1.6]

[7.2 3. 5.8 1.6]

[6.2 2.9 4.3 1.3]

[5.4 3.7 1.5 0.2]

[5.8 4. 1.2 0.2]

[4.9 3.1 1.5 0.1]

[4.7 3.2 1.6 0.2]

[4.6 3.1 1.5 0.2]

[7.7 2.6 6.9 2.3]

[5.1 3.5 1.4 0.2]

[5. 3.5 1.3 0.3]

[6.5 2.8 4.6 1.5]

[5.1 3.8 1.9 0.4]

[4.7 3.2 1.3 0.2]

[4.8 3.4 1.6 0.2]

[6.1 2.6 5.6 1.4]

[6.7 3.3 5.7 2.5]

[6.9 3.1 5.4 2.1]

[4.6 3.6 1. 0.2]

[6.7 3. 5. 1.7]

[5. 3.3 1.4 0.2]

[6. 2.7 5.1 1.6]

[7. 3.2 4.7 1.4]

[6. 2.2 5. 1.5]

[6. 3. 4.8 1.8]

[6.6 3. 4.4 1.4]

[5.5 2.6 4.4 1.2]

[5.4 3.9 1.3 0.4]

[4.9 2.4 3.3 1. ]

[4.9 3.1 1.5 0.1]

[5. 2.3 3.3 1. ]

[5.1 3.3 1.7 0.5]

[6.4 2.9 4.3 1.3]

[6.3 2.5 5. 1.9]

[6.5 3.2 5.1 2. ]

[6.3 2.3 4.4 1.3]

[4.8 3.1 1.6 0.2]

[6.3 3.4 5.6 2.4]

[6.7 3. 5.2 2.3]

[7.6 3. 6.6 2.1]

[6.5 3. 5.5 1.8]

[5. 3. 1.6 0.2]

[5.2 4.1 1.5 0.1]

[6.9 3.2 5.7 2.3]

[6.7 3.1 5.6 2.4]

[5.7 2.8 4.5 1.3]

[5.2 3.4 1.4 0.2]

[6.7 2.5 5.8 1.8]

[5.2 3.5 1.5 0.2]

[6.1 2.9 4.7 1.4]

[5.7 3. 4.2 1.2]

[6. 2.9 4.5 1.5]

[6.6 2.9 4.6 1.3]

[4.4 2.9 1.4 0.2]

[6.7 3.1 4.7 1.5]

[6.5 3. 5.8 2.2]

[5.1 3.7 1.5 0.4]

[6.3 2.8 5.1 1.5]

[5.6 2.9 3.6 1.3]

[6.4 2.8 5.6 2.2]

[5.8 2.7 5.1 1.9]

[5.7 2.5 5. 2. ]

[5.9 3.2 4.8 1.8]

[5. 3.4 1.6 0.4]

[6.4 2.8 5.6 2.1]

[5.6 2.7 4.2 1.3]

[6.9 3.1 5.1 2.3]

[5.7 2.6 3.5 1. ]

[6.5 3. 5.2 2. ]

[6.4 3.1 5.5 1.8]

[6.9 3.1 4.9 1.5]

[5.6 2.5 3.9 1.1]

[6.4 3.2 4.5 1.5]

[5.8 2.6 4. 1.2]

[5.7 2.9 4.2 1.3]

[4.8 3.4 1.9 0.2]

[5.9 3. 5.1 1.8]

[7.7 3. 6.1 2.3]

[4.4 3.2 1.3 0.2]]

Before normalizing

Leaf node for set class is Iris-virginica 21

Leaf node for set class is Iris-versicolor 24

Leaf node for set class is Iris-setosa 45

Accuracy is 1.0

Leaf node for set class is Iris-virginica 21

Leaf node for set class is Iris-versicolor 25

Leaf node for set class is Iris-setosa 43

Accuracy is 1.0

Leaf node for set class is Iris-virginica 21

Leaf node for set class is Iris-versicolor 28

Leaf node for set class is Iris-setosa 42

Accuracy is 0.9333333333333333

Leaf node for set class is Iris-virginica 21

Leaf node for set class is Iris-versicolor 22

Leaf node for set class is Iris-setosa 46

Accuracy is 1.0

Leaf node for set class is Iris-virginica 23

Leaf node for set class is Iris-setosa 35

Accuracy is 0.8666666666666667

Leaf node for set class is Iris-virginica 22

Leaf node for set class is Iris-setosa 39

Accuracy is 0.8666666666666667

Leaf node for set class is Iris-virginica 23

Leaf node for set class is Iris-versicolor 24

Leaf node for set class is Iris-setosa 46

Accuracy is 0.8666666666666667

Leaf node for set class is Iris-versicolor 15

Leaf node for set class is Iris-setosa 45

Accuracy is 1.0

Leaf node for set class is Iris-virginica 41

Leaf node for set class is Iris-setosa 45

Accuracy is 0.8666666666666667

Leaf node for set class is Iris-versicolor 25

Leaf node for set class is Iris-setosa 35

Accuracy is 0.9333333333333333

Accuracy across 10-cross validation for 0.25 is 0.9333333333333336

Standard deviation across 10-cross validation for 0.25 is 0.06285393610547088