

Output of Random Classification task on the Iris dataset using SparLM:

root

```
|-- data1: double (nullable = false)
|-- data2: double (nullable = false)
|-- data3: double (nullable = false)
|-- data4: double (nullable = false)
|-- species: string (nullable = true)
```

species	count
Iris-setosa	50
Iris-virginica	50
Iris-versicolor	50

predictedLabel	indexedLabel	indexedFeatures
Iris-setosa	0.0	[4.7,3.2,1.3,0.2]
Iris-setosa	0.0	[4.6,3.4,1.4,0.3]
Iris-setosa	0.0	[4.8,3.0,1.4,0.1]
Iris-setosa	0.0	[5.1,3.5,1.4,0.3]
Iris-setosa	0.0	[5.7,3.8,1.7,0.3]
Iris-setosa	0.0	[5.4,3.4,1.7,0.2]
Iris-setosa	0.0	[5.1,3.7,1.5,0.4]
Iris-setosa	0.0	[5.0,3.0,1.6,0.2]
Iris-setosa	0.0	[5.0,3.4,1.6,0.4]
Iris-setosa	0.0	[5.2,3.5,1.5,0.2]
Iris-setosa	0.0	[4.8,3.1,1.6,0.2]
Iris-setosa	0.0	[5.4,3.4,1.5,0.4]
Iris-setosa	0.0	[5.5,4.2,1.4,0.2]
Iris-setosa	0.0	[4.9,3.1,1.5,0.1]
Iris-setosa	0.0	[5.0,3.2,1.2,0.2]
Iris-setosa	0.0	[5.1,3.4,1.5,0.2]
Iris-setosa	0.0	[4.5,2.3,1.3,0.3]
Iris-setosa	0.0	[5.0,3.5,1.6,0.6]
Iris-setosa	0.0	[5.1,3.8,1.6,0.2]
Iris-setosa	0.0	[5.0,3.3,1.4,0.2]
Iris-versicolor	1.0	[6.4,3.2,4.5,1.5]
Iris-versicolor	1.0	[5.5,2.3,4.0,1.3]

Iris-versicolor	1.0	[6.6,2.9,4.6,1.3]
Iris-versicolor	1.0	[6.1,2.9,4.7,1.4]
Iris-versicolor	1.0	[5.6,2.9,3.6,1.3]
Iris-versicolor	1.0	[6.7,3.1,4.4,1.4]
Iris-versicolor	1.0	[5.8,2.7,4.1,1.0]
Iris-versicolor	1.0	[6.2,2.2,4.5,1.5]
Iris-virginica	1.0	[5.9,3.2,4.8,1.8]
Iris-versicolor	1.0	[6.3,2.5,4.9,1.5]
Iris-versicolor	1.0	[6.6,3.0,4.4,1.4]
Iris-versicolor	1.0	[6.0,2.9,4.5,1.5]
Iris-versicolor	1.0	[5.4,3.0,4.5,1.5]
Iris-versicolor	1.0	[6.7,3.1,4.7,1.5]
Iris-versicolor	1.0	[6.3,2.3,4.4,1.3]
Iris-versicolor	1.0	[5.7,3.0,4.2,1.2]
Iris-versicolor	1.0	[5.7,2.9,4.2,1.3]
Iris-virginica	2.0	[6.3,3.3,6.0,2.5]
Iris-virginica	2.0	[6.5,3.0,5.8,2.2]
Iris-virginica	2.0	[7.6,3.0,6.6,2.1]
Iris-virginica	2.0	[7.3,2.9,6.3,1.8]
Iris-virginica	2.0	[6.7,2.5,5.8,1.8]
Iris-virginica	2.0	[7.2,3.6,6.1,2.5]
Iris-virginica	2.0	[6.5,3.2,5.1,2.0]
Iris-virginica	2.0	[6.4,3.2,5.3,2.3]
Iris-versicolor	2.0	[6.0,2.2,5.0,1.5]
Iris-virginica	2.0	[5.6,2.8,4.9,2.0]
Iris-versicolor	2.0	[6.3,2.7,4.9,1.8]
Iris-virginica	2.0	[6.2,2.8,4.8,1.8]
Iris-virginica	2.0	[6.1,3.0,4.9,1.8]
Iris-virginica	2.0	[6.4,2.8,5.6,2.1]
Iris-virginica	2.0	[6.4,2.8,5.6,2.2]
Iris-virginica	2.0	[7.7,3.0,6.1,2.3]
Iris-virginica	2.0	[6.0,3.0,4.8,1.8]
Iris-virginica	2.0	[5.8,2.7,5.1,1.9]
Iris-virginica	2.0	[6.7,3.0,5.2,2.3]
Iris-virginica	2.0	[6.3,2.5,5.0,1.9]
Iris-virginica	2.0	[6.5,3.0,5.2,2.0]
Iris-virginica	2.0	[6.2,3.4,5.4,2.3]
Iris-virginica	2.0	[5.9,3.0,5.1,1.8]

Test Error = 0.0500000000000000044

Learned classification forest model:

RandomForestClassificationModel (uid=rfc_478c3f064947) with
10 trees

```
Tree 0 (weight 1.0):
  If (feature 2 <= 1.7)
    Predict: 0.0
  Else (feature 2 > 1.7)
    If (feature 2 <= 5.0)
      Predict: 1.0
    Else (feature 2 > 5.0)
      If (feature 2 <= 5.1)
        If (feature 3 <= 1.6)
          Predict: 1.0
        Else (feature 3 > 1.6)
          Predict: 2.0
      Else (feature 2 > 5.1)
        Predict: 2.0
Tree 1 (weight 1.0):
  If (feature 3 <= 0.5)
    Predict: 0.0
  Else (feature 3 > 0.5)
    If (feature 2 <= 4.9)
      Predict: 1.0
    Else (feature 2 > 4.9)
      If (feature 2 <= 5.1)
        If (feature 3 <= 1.6)
          If (feature 3 <= 1.5)
            Predict: 2.0
          Else (feature 3 > 1.5)
            Predict: 1.0
        Else (feature 3 > 1.6)
          Predict: 2.0
      Else (feature 2 > 5.1)
        Predict: 2.0
Tree 2 (weight 1.0):
  If (feature 2 <= 1.7)
    Predict: 0.0
  Else (feature 2 > 1.7)
    If (feature 2 <= 5.0)
      Predict: 1.0
    Else (feature 2 > 5.0)
      If (feature 3 <= 1.6)
        If (feature 2 <= 5.1)
          Predict: 1.0
        Else (feature 2 > 5.1)
          Predict: 2.0
      Else (feature 3 > 1.6)
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Predict: 2.0
Tree 3 (weight 1.0):
  If (feature 3 <= 0.5)
    Predict: 0.0
  Else (feature 3 > 0.5)
    If (feature 3 <= 1.7)
      If (feature 0 <= 7.0)
        If (feature 2 <= 5.0)
          If (feature 0 <= 4.9)
            Predict: 1.0
          Else (feature 0 > 4.9)
            Predict: 1.0
        Else (feature 2 > 5.0)
          Predict: 2.0
      Else (feature 0 > 7.0)
        Predict: 2.0
    Else (feature 3 > 1.7)
      Predict: 2.0
Tree 4 (weight 1.0):
  If (feature 2 <= 1.9)
    Predict: 0.0
  Else (feature 2 > 1.9)
    If (feature 3 <= 1.6)
      If (feature 3 <= 1.3)
        Predict: 1.0
      Else (feature 3 > 1.3)
        If (feature 2 <= 5.1)
          Predict: 1.0
        Else (feature 2 > 5.1)
          Predict: 2.0
    Else (feature 3 > 1.6)
      Predict: 2.0
Tree 5 (weight 1.0):
  If (feature 2 <= 1.9)
    Predict: 0.0
  Else (feature 2 > 1.9)
    If (feature 3 <= 1.5)
      Predict: 1.0
    Else (feature 3 > 1.5)
      If (feature 2 <= 5.1)
        If (feature 1 <= 2.7)
          Predict: 1.0
        Else (feature 1 > 2.7)
          If (feature 3 <= 1.6)
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        Predict: 1.0
      Else (feature 3 > 1.6)
        Predict: 2.0
    Else (feature 2 > 5.1)
      Predict: 2.0
Tree 6 (weight 1.0):
  If (feature 3 <= 1.6)
    If (feature 2 <= 1.7)
      Predict: 0.0
    Else (feature 2 > 1.7)
      Predict: 1.0
  Else (feature 3 > 1.6)
    If (feature 3 <= 1.7)
      If (feature 1 <= 2.5)
        Predict: 2.0
      Else (feature 1 > 2.5)
        Predict: 1.0
    Else (feature 3 > 1.7)
      Predict: 2.0
Tree 7 (weight 1.0):
  If (feature 3 <= 0.5)
    Predict: 0.0
  Else (feature 3 > 0.5)
    If (feature 3 <= 1.7)
      If (feature 0 <= 7.0)
        If (feature 3 <= 1.3)
          Predict: 1.0
        Else (feature 3 > 1.3)
          If (feature 1 <= 2.6)
            Predict: 2.0
          Else (feature 1 > 2.6)
            Predict: 1.0
      Else (feature 0 > 7.0)
        Predict: 2.0
    Else (feature 3 > 1.7)
      Predict: 2.0
Tree 8 (weight 1.0):
  If (feature 3 <= 0.5)
    Predict: 0.0
  Else (feature 3 > 0.5)
    If (feature 2 <= 4.9)
      Predict: 1.0
    Else (feature 2 > 4.9)
      If (feature 2 <= 5.0)
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```
    If (feature 3 <= 1.7)
      Predict: 1.0
    Else (feature 3 > 1.7)
      Predict: 2.0
  Else (feature 2 > 5.0)
    Predict: 2.0
Tree 9 (weight 1.0):
  If (feature 3 <= 0.5)
    Predict: 0.0
  Else (feature 3 > 0.5)
    If (feature 3 <= 1.7)
      If (feature 3 <= 1.4)
        Predict: 1.0
      Else (feature 3 > 1.4)
        If (feature 0 <= 6.0)
          Predict: 1.0
        Else (feature 0 > 6.0)
          If (feature 2 <= 5.0)
            Predict: 1.0
          Else (feature 2 > 5.0)
            Predict: 2.0
    Else (feature 3 > 1.7)
      Predict: 2.0
```

Process finished with exit code 0