Creado por:

In [3]: print(iris.feature names)

[[5.1 3.5 1.4 0.2] [4.9 3. 1.4 0.2] [4.7 3.2 1.3 0.2] [4.6 3.1 1.5 0.2] [5. 3.6 1.4 0.2] [5.4 3.9 1.7 0.4] [4.6 3.4 1.4 0.3] [5. 3.4 1.5 0.2] [4.4 2.9 1.4 0.2] [4.9 3.1 1.5 0.1] [5.4 3.7 1.5 0.2] [4.8 3.4 1.6 0.2] [4.8 3. 1.4 0.1] [4.3 3. 1.1 0.1] [5.8 4. 1.2 0.2] [5.7 4.4 1.5 0.4] [5.4 3.9 1.3 0.4] [5.1 3.5 1.4 0.3] [5.7 3.8 1.7 0.3] [5.1 3.8 1.5 0.3] [5.4 3.4 1.7 0.2] [5.1 3.7 1.5 0.4] [4.6 3.6 1. 0.2] [5.1 3.3 1.7 0.5] [4.8 3.4 1.9 0.2] [5. 3. 1.6 0.2] [5. 3.4 1.6 0.4] [5.2 3.5 1.5 0.2] [5.2 3.4 1.4 0.2] [4.7 3.2 1.6 0.2] [4.8 3.1 1.6 0.2] [5.4 3.4 1.5 0.4] [5.2 4.1 1.5 0.1] [5.5 4.2 1.4 0.2] [4.9 3.1 1.5 0.2] [5. 3.2 1.2 0.2] [5.5 3.5 1.3 0.2] [4.9 3.6 1.4 0.1] [4.4 3. 1.3 0.2] [5.1 3.4 1.5 0.2] [5. 3.5 1.3 0.3] [4.5 2.3 1.3 0.3] [4.4 3.2 1.3 0.2] [5. 3.5 1.6 0.6] [5.1 3.8 1.9 0.4] [4.8 3. 1.4 0.3] [5.1 3.8 1.6 0.2] [4.6 3.2 1.4 0.2] [5.3 3.7 1.5 0.2] [5. 3.3 1.4 0.2] [7. 3.2 4.7 1.4] [6.4 3.2 4.5 1.5] [6.9 3.1 4.9 1.5] [5.5 2.3 4. 1.3] [6.5 2.8 4.6 1.5] [5.7 2.8 4.5 1.3] [6.3 3.3 4.7 1.6] [4.9 2.4 3.3 1.] [6.6 2.9 4.6 1.3] [5.2 2.7 3.9 1.4] [5. 2. 3.5 1.] [5.9 3. 4.2 1.5] [6. 2.2 4. 1.] [6.1 2.9 4.7 1.4] [5.6 2.9 3.6 1.3] [6.7 3.1 4.4 1.4] [5.6 3. 4.5 1.5] [5.8 2.7 4.1 1. ] [6.2 2.2 4.5 1.5] [5.6 2.5 3.9 1.1] [5.9 3.2 4.8 1.8] [6.1 2.8 4. 1.3] [6.3 2.5 4.9 1.5] [6.1 2.8 4.7 1.2] [6.4 2.9 4.3 1.3] [6.6 3. 4.4 1.4] [6.8 2.8 4.8 1.4]  $[6.7 \ 3. \ 5. \ 1.7]$ [6. 2.9 4.5 1.5] [5.7 2.6 3.5 1.] [5.5 2.4 3.8 1.1] [5.5 2.4 3.7 1.] [5.8 2.7 3.9 1.2] [6. 2.7 5.1 1.6] [5.4 3. 4.5 1.5] [6. 3.4 4.5 1.6] [6.7 3.1 4.7 1.5] [6.3 2.3 4.4 1.3] [5.6 3. 4.1 1.3] [5.5 2.5 4. 1.3] [5.5 2.6 4.4 1.2]  $[6.1 \ 3. \ 4.6 \ 1.4]$ [5.8 2.6 4. 1.2] [5. 2.3 3.3 1.] [5.6 2.7 4.2 1.3] [5.7 3. 4.2 1.2] [5.7 2.9 4.2 1.3] [6.2 2.9 4.3 1.3] [5.1 2.5 3. 1.1] [5.7 2.8 4.1 1.3] [6.3 3.3 6. 2.5] [5.8 2.7 5.1 1.9]  $[7.1 \ 3. \ 5.9 \ 2.1]$ [6.3 2.9 5.6 1.8]  $[6.5 \ 3. \ 5.8 \ 2.2]$ [7.6 3. 6.6 2.1] [4.9 2.5 4.5 1.7] [7.3 2.9 6.3 1.8] [6.7 2.5 5.8 1.8] [7.2 3.6 6.1 2.5] [6.5 3.2 5.1 2. ] [6.4 2.7 5.3 1.9]  $[6.8 \ 3. \ 5.5 \ 2.1]$ [5.7 2.5 5. 2.] [5.8 2.8 5.1 2.4] [6.4 3.2 5.3 2.3] [6.5 3. 5.5 1.8] [7.7 3.8 6.7 2.2] [7.7 2.6 6.9 2.3] [6. 2.2 5. 1.5] [6.9 3.2 5.7 2.3] [5.6 2.8 4.9 2. ] [7.7 2.8 6.7 2. ] [6.3 2.7 4.9 1.8]  $[6.7 \ 3.3 \ 5.7 \ 2.1]$ [7.2 3.2 6. 1.8] [6.2 2.8 4.8 1.8]  $[6.1 \ 3. \ 4.9 \ 1.8]$  $[6.4 \ 2.8 \ 5.6 \ 2.1]$ [7.2 3. 5.8 1.6] [7.4 2.8 6.1 1.9] [7.9 3.8 6.4 2. ] [6.4 2.8 5.6 2.2] [6.3 2.8 5.1 1.5] [6.1 2.6 5.6 1.4] [7.7 3. 6.1 2.3][6.3 3.4 5.6 2.4] [6.4 3.1 5.5 1.8] [6. 3. 4.8 1.8] [6.9 3.1 5.4 2.1]  $[6.7 \ 3.1 \ 5.6 \ 2.4]$ [6.9 3.1 5.1 2.3] [5.8 2.7 5.1 1.9] [6.8 3.2 5.9 2.3]  $[6.7 \ 3.3 \ 5.7 \ 2.5]$ [6.7 3. 5.2 2.3] [6.3 2.5 5. 1.9] [6.5 3. 5.2 2.] [6.2 3.4 5.4 2.3] [5.9 3. 5.1 1.8]]

In [4]: print(iris.data)

In [5]: print(iris.target)

2 2]

df

0

1

2

3

4

145

146 147

148

149

y\_pred

Out[25]: array([1])

150 rows × 4 columns

clf.fit(X\_train, y\_train)

In [24]: **from** sklearn **import** metrics

In [25]: clf.predict([[3, 5, 4, 2]])

Es de tipo versicolor

Creado por:

Isabel Maniega

y\_pred = clf.predict(X\_test)

Accuracy: 0.9736842105263158

Out[6]:

In [6]: **import** pandas **as** pd

5.1

4.9

4.7

4.6

5.0

6.7

6.3

6.5

6.2

5.9

In [22]: from sklearn.model\_selection import train\_test\_split

In [23]: **from** sklearn.ensemble **import** RandomForestClassifier

clf = RandomForestClassifier(n\_estimators=100)

1.4

1.4

1.3

1.5

1.4

5.2

5.0

5.2

5.4

5.1

X\_train, X\_test, y\_train, y\_test = train\_test\_split(iris.data, iris.target, test\_size=0.25)

0.2

0.2

0.2

0.2

0.2

2.3

1.9

2.0

2.3

1.8

df = pd.DataFrame(iris.data, columns=iris.feature\_names)

sepal length (cm) sepal width (cm) petal length (cm) petal width (cm)

3.5

3.0

3.2

3.1

3.6

3.0

2.5

3.0

3.4

3.0

Out[23]: array([2, 0, 2, 0, 2, 0, 1, 2, 0, 0, 0, 2, 0, 2, 0, 0, 0, 2, 2, 0, 0, 0, 2, 1, 1, 1, 0, 1, 1, 0, 1, 0, 0, 1, 0, 1, 0, 2])

print("Accuracy: ", metrics.accuracy\_score(y\_test, y\_pred))

iris = datasets.load\_iris()

Random Forest Classification

Isabel Maniega

In [1]: **from** sklearn **import** datasets In [2]: print(iris.target\_names) ['setosa' 'versicolor' 'virginica']

['sepal length (cm)', 'sepal width (cm)', 'petal length (cm)', 'petal width (cm)']