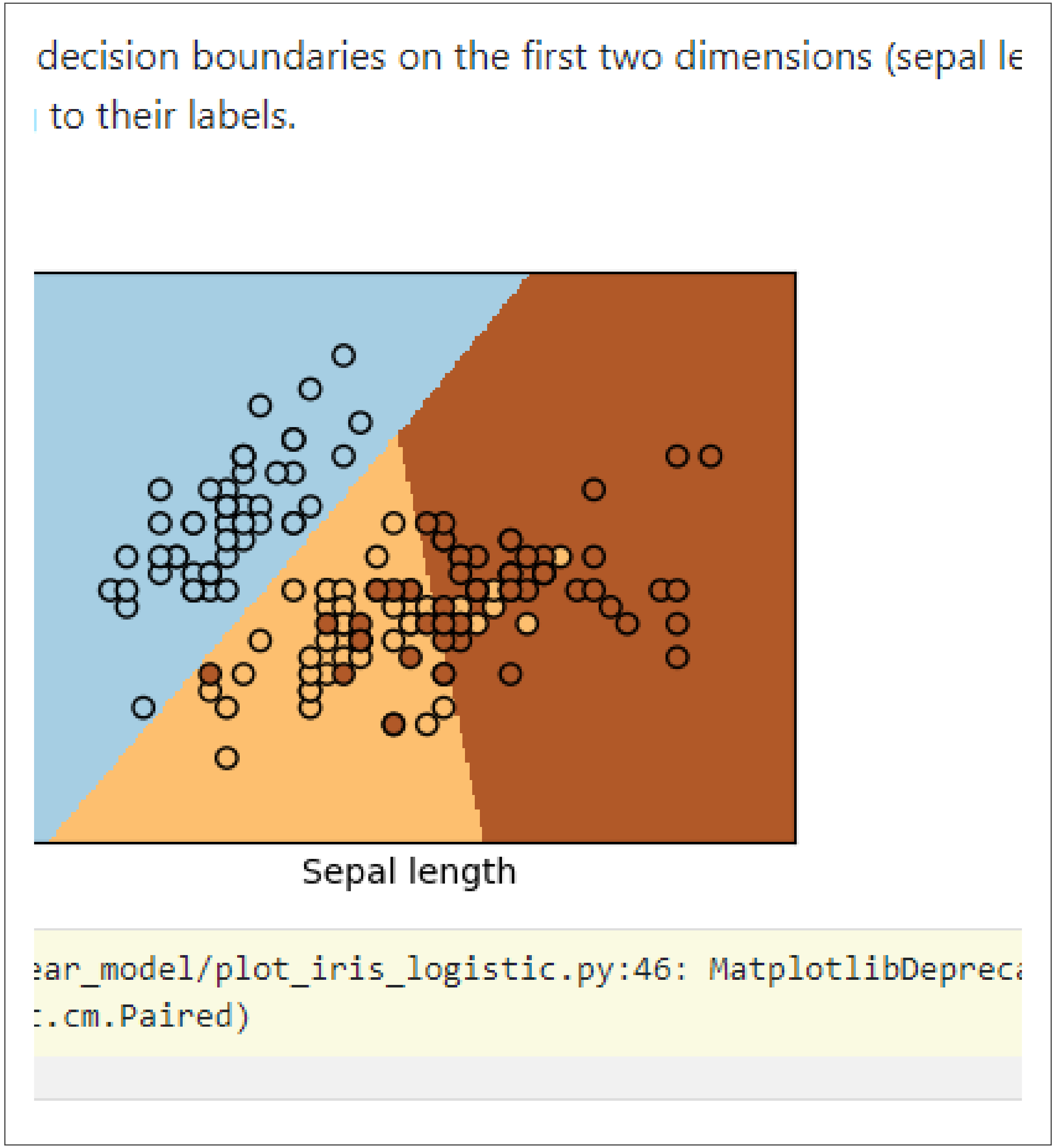
PRE-SESSION WK3

DAWSON, C.



decision boundaries on the first two dimensions (sepal le

to their labels.

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ear_model/plot_iris_logistic.py:46: MatplotlibDepreca
:.cm.Paired)
```

Logistic Regression

- One-Hot Encoding
- Example:

```
print(__doc__)

# Code source: Gaël Varoquaux

# Modified for documentation by Jaques Grobler

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import numpy as np

import matplotlib.pyplot as plt

from sklearn.linear_model import LogisticRegression

from sklearn import datasets

# import some data to play with

iris = datasets.load_iris()

X = iris.data[:, :2]  # we only take the first two features.

Y = iris.target

# Create an instance of Logistic Regression Classifier and fit the data.

logreg = LogisticRegression(C=1e5)

logreg.fit(X, Y)

# Plot the decision boundary. For that, we will assign a color to each

# point in the mesh [x_min, x_max]x[y_min, y_max].

x_min, x_max = X[:, 0].min() - .5, X[:, 0].max() + .5

y_min, y_max = X[:, 1].min() - .5, X[:, 1].max() + .5

h = .02  # step size in the mesh

xx, yy = np.meshgrid(np.arange(x_min, x_max, h), np.arange(y_min, y_max, h))

Z = logreg.predict(np.c_[xx.ravel(), yy.ravel()])

# Put the result into a color plot

Z = Z.reshape(xx.shape)

plt.figure(1, figsize=(4, 3))

plt.pcolormesh(xx, yy, Z, cmap=plt.cm.Paired)

# Plot also the training points

plt.scatter(X[:, 0], X[:, 1], c=Y, edgecolors='k', cmap=plt.cm.Paired)

plt.xlabel('Sepal length')

plt.ylabel('Sepal width')

plt.xlim(xx.min(), xx.max())

plt.ylim(yy.min(), yy.max())

plt.xticks(())

plt.yticks(())

plt.show()
```