Iris Classifier

As a part of an application for iris enthusiasts, implement the *train_and_predict* function which should be able to classify three types of irises based on four features.

The *train_and_predict* function accepts three parameters:

- *train_input_features* - a two-dimensional NumPy array where each element is an array that contains: sepal length, sepal width, petal length, and petal width.

- *train_outputs* - a one-dimensional NumPy array where each element is a number representing the species of iris which is described in the same row of *train_input_features*. 0 represents Iris setosa, 1 represents Iris versicolor, and 2 represents Iris virginica.

- *prediction_features* - two-dimensional NumPy array where each element is an array that contains: sepal length, sepal width, petal length, and petal width.

The function should train a classifier using *train_input_features* as input data and *train_outputs* as the expected result. After that, the function should use the trained classifier to predict labels for *prediction_features* and return them as an iterable (like list or numpy.ndarray). The nth position in the result should be the classification of the nth row of the *prediction_features* parameter.

Python 3.7.4, Pandas 0.25.1, Numpy 1.16.5, Scipy 1.3.1, Scikit-learn 0.21.3 ❓   Copy to IDE   Show starting code ⬏

```
 3   from sklearn.model_selection import train_test_split

 4   from sklearn import metrics

 5

 6 ▾ def train_and_predict(train_input_features, train_outputs, prediction_features):

 7       """

 8 ▾     :param train_input_features: (numpy.array) A two-dimensional NumPy array where eac

 9                         is an array that contains: sepal length, sepal width, petal le

10 ▾     :param train_outputs: (numpy.array) A one-dimensional NumPy array where each eleme

11                         is a number representing the species of iris which is describe
```

Run

| | Output | Tests: 3 pass / 0 fail |

- ⊘ Accuracy on the example case is higher or equal to 80%: Correct answer ❓
- ⊘ Accuracy is higher or equal to 75% on data with noise: Correct answer ❓
- ⊘ Accuracy is higher or equal to 85% on data with noise: Correct answer ❓

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Tags

`PYTHON DATA SCIENCE` () `CLASSIFICATION` () `MACHINE LEARNING` () `NUMPY` () `SCIKIT-LEARN` () `PUBLIC` () `NEW` ()

Difficulty: Easy

Duration: 20min

Author: Davor Čulig ⧉

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