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# -*- coding: utf-8 -*-
"""
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"""

# the code for importing and splitting the dataset
import sklearn
from sklearn.datasets import  load_digits
digits = load_digits()
X = digits.data
y = digits.target
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2,
random_state=1)
print(X_train.shape)


# Transforming the train and test sets such that they explain 95% of variance
from sklearn.decomposition import PCA
sklearn_pca = PCA(n_components=0.95)
sklearn_pca.fit(X_train)
X_train_transformed = sklearn_pca.transform(X_train)
print(X_train_transformed.shape)
print(X_test.shape)
X_test_transformed =sklearn_pca.transform(X_test)
print(X_test_transformed.shape)
```

```
(1437, 64)
(1437, 28)
(360, 64)
(360, 28)
```