import pandas as pd

import numpy as np

import json

import sys

import warnings

from sklearn.datasets import make\_regression

from sklearn.feature\_selection import RFECV

from sklearn import datasets, linear\_model

from sklearn.preprocessing import StandardScaler

from sklearn.decomposition import PCA

from sklearn.decomposition import NMF

from sklearn import datasets

from sklearn import metrics

from sklearn.model\_selection import StratifiedKFold, KFold, cross\_val\_score

from sklearn.pipeline import make\_pipeline

from sklearn.linear\_model import LogisticRegression

#**11.1 Cross-Validating Models**

digits = datasets.load\_digits()

features=digits.data

target=digits.target

standardizer=StandardScaler()

logit=LogisticRegression()

pipeline=make\_pipeline(standardizer, logit)

kf=StratifiedKFold(n\_splits=10, shuffle=True, random\_state=1)

cv\_results=cross\_val\_score(pipeline, # Pipeline

features, # Feature matrix

target,#target vector

cv=kf, # Cross-validation technique

scoring = "accuracy", # Loss function

n\_jobs = -1)

print(cv\_results.mean())

print (cv\_results)

print("results")