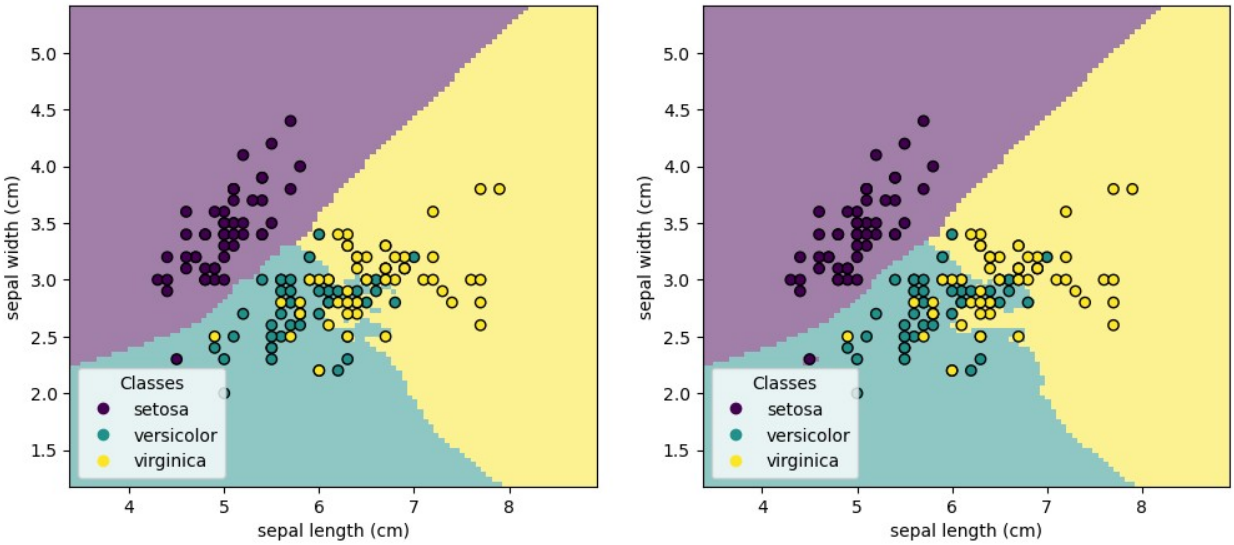
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn import datasets

data = datasets.load_iris()
X,y = datasets.load_iris(return_X_y=True)
from sklearn.model_selection import train_test_split
X = X[:,:2]

x_train,x_test,y_train,y_test =
train_test_split(X,y,test_size=0.3,random_state=42)

from sklearn.pipeline import Pipeline
from sklearn.neighbors import KNeighborsClassifier
from sklearn.preprocessing import StandardScaler,MinMaxScaler
from sklearn.inspection import DecisionBoundaryDisplay

clf = Pipeline(steps=[("scaler",StandardScaler()),
("knn",KNeighborsClassifier(n_neighbors=11))])

fig,axes = plt.subplots(nrows=1,ncols=2,figsize=(12,5))

for ax,weights in zip(axes,["uniform","distance"]):
    clf.set_params(knn__weights = weights).fit(x_train,y_train)

DecisionBoundaryDisplay.from_estimator(clf,x_test,response_method="pre
dict",plot_method="pcolormesh",xlabel=data.feature_names[0],ylabel=dat
a.feature_names[1],shading="auto",ax=ax,alpha=0.5)
    scatter = ax.scatter(X[:,0],X[:,1],c=y,edgecolors="k")
    ax.legend(
        scatter.legend_elements()[0], data.target_names,
        loc="lower left", title="Classes"
    )
```


sepal width (cm)
sepal length (cm)
Classes
setosa
versicolor
virginica