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In [ ]: from sklearn.ensemble import AdaBoostRegressor, VotingRegressor
from sklearn.linear_model import LinearRegression
from sklearn.tree import DecisionTreeRegressor
from sklearn.model_selection import train_test_split
from sklearn.metrics import mean_squared_error

import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
from sklearn.model_selection import train_test_split

from sklearn import datasets

iris = datasets.load_iris()
iris_df = pd.DataFrame(data=iris.data, columns=iris.feature_names)
iris_target=iris.target
X = iris_df.drop(columns=['sepal length (cm)', 'petal length (cm)', 'sepal width (cm)'])
Y = iris_target
```

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In [ ]: # Create base estimators
X_train, X_val, y_train, y_val = train_test_split(X, Y, test_size= 0.3, random_state=2 )
base_estimators = [
    ('linear', LinearRegression()), # Linear regression as a base estimator
    ('tree', DecisionTreeRegressor()) # Decision tree as a base estimator
]
```

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In [ ]: # AdaBoostRegressor
adaboost = AdaBoostRegressor(base_estimator=DecisionTreeRegressor(), n_estimators=50, random_state=42)
adaboost.fit(X_train, y_train)
adaboost_preds = adaboost.predict(X_val)
adaboost_rmse = mean_squared_error(y_val, adaboost_preds, squared=False)
print("AdaBoost RMSE:", adaboost_rmse)
```

c:\Users\Deepthi\AppData\Local\Programs\Python\Python38\lib\site-packages\sklearn\ensemble_base.py:156: FutureWarning: `base_estimator` was renamed to `estimator` in version 1.2 and will be removed in 1.4.
warnings.warn(

AdaBoost RMSE: 0.21081851067789195

```
In [ ]: # VotingRegressor
voting_regressor = VotingRegressor(estimators=base_estimators)
voting_regressor.fit(X_train, y_train)
voting_preds = voting_regressor.predict(X_val)
voting_rmse = mean_squared_error(y_val, voting_preds, squared=False)
print("Voting Regressor RMSE:", voting_rmse)
```

Voting Regressor RMSE: 0.2050352019590114