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Topic: ML in Finance Assignment 4

```python
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import StandardScaler
from sklearn.neural_network import MLPRegressor
from sklearn.metrics import mean_absolute_error

df = pd.read_csv("data_stocks.csv")
df = df.drop(columns=["DATE"])
y = df["SP500"].values
X = df.drop(columns=["SP500"]).values

sc = StandardScaler()
X = sc.fit_transform(X)

X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, shuffle=False)

model = MLPRegressor(hidden_layer_sizes=(410,205), max_iter=10)
print(model)

model.fit(X_train, y_train)

y_pred = model.predict(X_test)
mae = mean_absolute_error(y_test, y_pred)
print("MAE:", mae)
```

```
MLPRegressor(hidden_layer_sizes=(410, 205), max_iter=10)
MAE: 934.0293932504608
```