PRODUCT DEMAND PREDICTION WITH MACHINE LEARNINGS

Team Members :

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```
# Import necessary libraries
import pandas as pd
import numpy as np
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.metrics import mean_squared_error
import matplotlib.pyplot as plt


# Load a sample dataset (you should replace this with your dataset)
data = pd.DataFrame({
'Feature1': [1, 2, 3, 4, 5],
```

'Feature2': [2, 3, 4, 5, 6],

'Feature3': [3, 4, 5, 6, 7],

'Demand': [10, 15, 20, 25, 30]

})

Assuming you have features and target variable

X = data[['Feature1', 'Feature2', 'Feature3']] # Features

y = data['Demand'] # Target variable

Split the data into training and testing sets

X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)

Create a Linear Regression model

model = LinearRegression()

Fit the model to the training data

```
model.fit(X_train, y_train)


# Make predictions on the test set
y_pred = model.predict(X_test)


# Calculate the Mean Squared Error to evaluate the model
mse = mean_squared_error(y_test, y_pred)
print(f"Mean Squared Error: {mse}")


# Visualize the predictions
plt.scatter(y_test, y_pred)
plt.xlabel("Actual Demand")
plt.ylabel("Predicted Demand")
plt.title("Demand Prediction")
plt.show()
```

OUTPUT :

PRODUCT DEMAND PREDICTION OUTPUT

0487097934144 76E-29