# NAAN MUDHALVAAN

# APPLIED DATA SCIENCE

# FUTURE  SALES PREDICTION

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## PHASE 5

**Step 1: Import Libraries**

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```python
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.metrics import mean_squared_error
```

**Step 2: Load and Prepare Data**

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```python
# Load your sales data into a Pandas DataFrame
sales_data = pd.read_csv('sales_data.csv')

# Assuming your data has columns like 'feature1', 'feature2', 'sales'
# Separate features and target variable
X = sales_data[['feature1', 'feature2']]
y = sales_data['sales']

# Split data into training and testing sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_stat
```

**Step 3: Build and Train the Model**

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```python
# Initialize the Linear Regression model
model = LinearRegression()

# Train the model using the training data
model.fit(X_train, y_train)
```

**Step 4: Make Predictions**

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```python
# Make predictions using the test data
predictions = model.predict(X_test)
```

**Step 5: Evaluate the Model**

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```python
# Calculate Mean Squared Error to evaluate the model performance
mse = mean_squared_error(y_test, predictions)
print(f'Mean Squared Error: {mse}')
```

# PROGRAM:

```
import pandas as pd
from sklearn.model_selection import
    train_test_split
from sklearn.linear_model import
    LinearRegression
from sklearn.metrics import mean_squared_error
# Load your sales data into a Pandas DataFrame
sales_data = pd.read_csv('sales_data.csv')

# Assuming your data has columns like
    'feature1', 'feature2', 'sales'
# Separate features and target variable
X = sales_data[['feature1', 'feature2']]
y = sales_data['sales']

# Split 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)
# Initialize the Linear Regression model
model = LinearRegression()

# Train the model using the training data
model.fit(X_train, y_train)
# Make predictions using the test data
predictions = model.predict(X_test)
```

Data set link:

output for future sales prediction