Program

```python
import pandas as pd

# Step 1: Load the dataset
data = pd.read_csv('product_sales.csv')  # Replace 'product_sales.csv' with your dataset's file path

# Step 2: Preprocess the data
# Handle missing values (if any)
data.dropna(inplace=True)

# Convert data types if needed
data['price'] = data['price'].astype(float)

data['total_sales'] = data['quantity'] * data['price']

# Step 3: Perform analysis
# Calculate total sales
total_sales = data['total_sales'].sum()
print(f'Total Sales: ${total_sales:.2f}')
```

output

```python
print("\nSample Output:")
print(data.head())  # Display the first few rows of the preprocessed dataset
```

product,quantity,price

A,10,5.00

B,5,8.00

C,8,12.00

A,7,5.00

B,3,8.00

C,6,12.00

	product	quantity	price	total_sales
0	A	10	5.0	50.00
1	B	5	8.0	40.00
2	C	8	12.0	96.00
3	A	7	5.0	35.00
4	B	3	8.0	24.00