

## Practical Task Solution: More data manipulation – date format and missing data

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"""
import pandas as pd
import matplotlib.pyplot as plt

# load the data
df = pd.read_csv('shopping.csv', parse_dates=['Date'], dayfirst=True)

# Handling Missing Values
df.fillna({'Product': 'Unknown', 'Quantity': 0, 'Price': 0.0, 'Total': 0.0}, inplace=True)

#Calculate Total
df['Total'] = df['Quantity'] * df['Price']

#Bar Chart for Product Sales
product_sales = df.groupby('Product')['Quantity'].sum()
product_sales.plot(kind='bar')
plt.show()

# Line Chart for Sales Over Time
df['Month'] = df['Date'].dt.to_period('M')
monthly_sales = df.groupby('Month')['Total'].sum()
monthly_sales.plot(kind='line')
plt.show()
```