import pandas as pd

import matplotlib.pyplot as plt

# Load CSV file

df = pd.read\_csv(r"c:\Users\dadak\Downloads\sales\_data.csv")

# Create "Total Sales" column

df["Total Sales"] = df["Quantity Sold"] \* df["Unit Price"]

# Group by Product and calculate total sales & profit

product\_sales = df.groupby("Product")["Total Sales"].sum().reset\_index()

product\_sales["Profit"] = product\_sales["Total Sales"] \* 0.20

# Overall Profit

overall\_profit = product\_sales["Profit"].sum()

# Top 5 most profitable products

top5\_profitable = product\_sales.sort\_values(by="Profit", ascending=False).head(5)

# Print results

print("Total Sales by Product:\n", product\_sales)

print("\nOverall Profit: ", overall\_profit)

print("\nTop 5 Most Profitable Products:\n", top5\_profitable)

# Visualization - Top 5 profitable products

plt.figure(figsize=(8,5))

plt.bar(top5\_profitable["Product"], top5\_profitable["Profit"], color="skyblue")

plt.title("Top 5 Most Profitable Products")

plt.xlabel("Product")

plt.ylabel("Profit")

plt.show()

OUTPUT:

Total Sales by Product:  
Product Total Sales Profit

0 Headphones 320 64.0

1 Keyboard 680 136.0

2 Laptop 6070 1214.0

3 Monitor 1440 288.0

4 Mouse 470 94.0

Overall Profit: 1796.0

Top 5 Most Profitable Products:

Product Total Sales Profit

2 Laptop 6070 1214.0

3 Monitor 1440 288.0

1 Keyboard 680 136.0

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0 Headphones 320 64.0

