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Code

```
import pandas as pd


#Creating lists and variables for profits
sales_df = pd.read_csv("C:/Users/kevin/OneDrive/Desktop/Data_Science/Results.csv")

rip_deck_profits = 0
golf_polo_profits = 0
football_cleats_profits = 0
running_shoe_profits = 0

rip_deck_count = 0
golf_polo_count = 0
football_cleats_count = 0
running_shoe_count = 0

best_profits_df0 = {
   'Order_Item_Cardprod_Id' : [],
   'Order_Item_Product_Price' : [],
   'Order_Item_Total' : [],
   'Order_Item_Quantity' : [],
   'Order_Profit_Per_Order' : [],
   'Total_Profits' : [rip_deck_profits, golf_polo_profits, football_cleats_profits,
running_shoe_profits]
}

#Perfect Fitness Perfect Rip Deck
filtered_df1 = sales_df[sales_df['Order_Item_Cardprod_Id'] == 365]
columns = ['Order_Item_Cardprod_Id', 'Order_Item_Product_Price',
          'Order_Item_Total', 'Order_Item_Quantity', 'Order_Profit_Per_Order']
best_profits_df1 = filtered_df1[columns]
print(best_profits_df1)

for total in filtered_df1['Order_Profit_Per_Order']:
   rip_deck_profits += total
for count in filtered_df1['Order_Item_Quantity']:
   rip_deck_count += count
print(f'Profits: $ {round(rip_deck_profits)} Quantity: {rip_deck_count}')



#Nike Men's Dri-FIT Victory Golf Polo
filtered_df2 = sales_df[sales_df['Order_Item_Cardprod_Id'] == 502]
```

```
columns = ['Order_Item_Cardprod_Id', 'Order_Item_Product_Price',
        'Order_Item_Total', 'Order_Item_Quantity', 'Order_Profit_Per_Order']
best_profits_df2 = filtered_df2[columns]
print(best_profits_df2)

for total in filtered_df2['Order_Profit_Per_Order']:
    golf_polo_profits += total
for count in filtered_df2['Order_Item_Quantity']:
    golf_polo_count += count
print(f'Profits: $ {round(golf_polo_profits)} Quantity: {golf_polo_count}')

#Nike Men's CJ Elite 2 TD Football Cleat
filtered_df3 = sales_df[sales_df['Order_Item_Cardprod_Id'] == 403]
columns = ['Order_Item_Cardprod_Id', 'Order_Item_Product_Price',
        'Order_Item_Total', 'Order_Item_Quantity', 'Order_Profit_Per_Order']
best_profits_df3 = filtered_df3[columns]
print(best_profits_df3)

for total in filtered_df3['Order_Profit_Per_Order']:
    football_cleats_profits += total
for count in filtered_df3['Order_Item_Quantity']:
    football_cleats_count += count
print(f'Profits: $ {round(football_cleats_profits)} Quantity: {football_cleats_count}')


#Nike Men's Free 5.0+ Running Shoe
filtered_df4 = sales_df[sales_df['Order_Item_Cardprod_Id'] == 191]
columns = ['Order_Item_Cardprod_Id', 'Order_Item_Product_Price',
        'Order_Item_Total', 'Order_Item_Quantity', 'Order_Profit_Per_Order']
best_profits_df4 = filtered_df4[columns]
print(best_profits_df4)

for total in filtered_df4['Order_Profit_Per_Order']:
    running_shoe_profits += total
for count in filtered_df4['Order_Item_Quantity']:
    running_shoe_count += count
print(f'Profits: $ {round(running_shoe_profits)} Quantity: {running_shoe_count}')



#Code below does not work:
#best_profits_df0['Total_Profits'].plot(kind = "barh", title = "Products vs. Profits")
```

Overview/Report

This report analyzes the sales data of four products:

Perfect Fitness Perfect Rip Deck

Nike Men's Dri-FIT Victory Golf Polo

Nike Men's CJ Elite 2 TD Football Cleat

Nike Men's Free 5.0+ Running Shoe

The analysis includes calculating total profits and the quantity sold for each product based on the sales data.

Data Summary

Perfect Fitness Perfect Rip Deck

Total Profits: $4,872

Quantity Sold: 741 units

Nike Men's Dri-FIT Victory Golf Polo

Total Profits: $3,919

Quantity Sold: 744 units

Nike Men's CJ Elite 2 TD Football Cleat

Total Profits: $744

Quantity Sold: 130 units

Nike Men's Free 5.0+ Running Shoe

Total Profits: $3,238

Quantity Sold: 331 units

Analysis

Highest Profit Product

The product with the highest total profits is the Perfect Fitness Perfect Rip Deck with a total profit of $4,872. This product outperformed others in terms of profitability, indicating its strong sales performance and possibly higher profit margins.

Highest Quantity Sold Product

The product with the highest quantity sold is also the Nike Men's Dri-FIT Victory Golf Polo, with a total of 744 units sold. This indicates a strong market demand for these Golf Polo, making it the most popular product among the four analyzed.

Conclusion

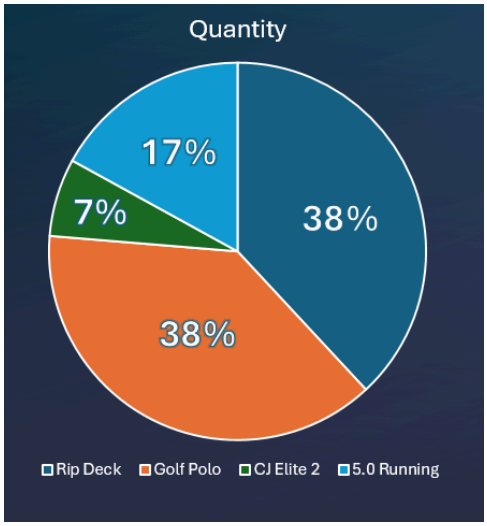
Based on the analysis of the sales data, the Perfect Fitness Perfect Rip Deck emerges as the most profitable product, generating a total profit of $4,872. This product's high profitability suggests it has either a strong sales volume or a higher profit margin compared to the other products analyzed.

On the other hand, the Nike Men's Dri-FIT Victory Golf Polo stands out as the product

with the highest quantity sold, with 744 units sold. This indicates that the Golf Polo has the highest market demand among the products, making it the most popular choice among consumers.

Overall, these insights highlight the Perfect Fitness Perfect Rip Deck as the top performer in terms of profitability and the Nike Men's Dri-FIT Victory Golf Polo as the leader in sales volume, offering valuable information for future marketing and inventory decisions.

Visualization



The graph/trend shows the total profits and quantity sold for each product:

This visualization clearly indicates that the Rip Deck has the highest total profits and the Nike Men's Dri-FIT Victory Golf Polo has the highest quantity sold, followed by the other products in the dataset.