EDS Mini Project

Batch – D2

Group Members :

428_ Mayur **PRN No. –** 202201040065

431_ Punit **PRN No. –** 202201040138

435_ Prashant **PRN No. –** 202201040055

442_ Sumedh **PRN No. –** 202201070034

Problem Statement –

The manager of Stark Industries has hired you to manage and study data of sales of previous and current quarter. The following csv files contain all the data necessary. Perform the following operations and find a conclusive statement for the following.

Perform following operations on Sheet-1:

- Item that was most profitable in last quarter.
- Variance and standard deviation of all items.
- Mean, median and mode of the total profit.
- Graph comparing investment and return in the following data sheet.
- Net investment, return, profit, and taxes.

CSV File –

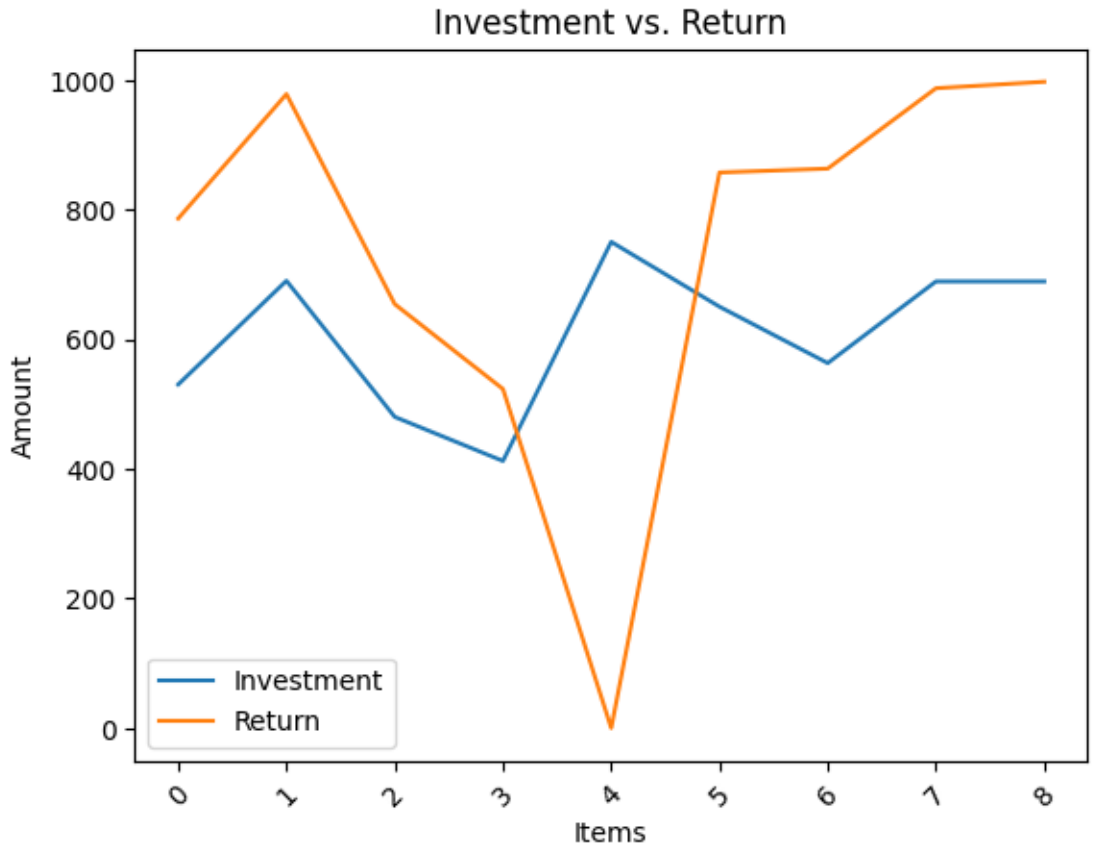
Item	Investment	Return	Taxation	Profit	% Profit
Missiles	530	786	141.48	114.52	21.61%
Tanks	690	978	176.04	111.96	16.23%
Robots	480	654	117.72	56.28	11.73%
War Machine	412	523	94.14	16.86	4.09%
Research and Development	750	0	0	-750	-100.00%
Drones	650	857	154.26	52.74	8.11%
Automatic Guns	563	863	155.34	144.66	25.69%
Aircrafts	689	987	177.66	120.34	17.47%
Hybrid Submarines	689	997	179.46	128.54	18.66%

Code –

```
import pandas as pd

# Read the CSV file
data = pd.read_csv('/content/mini_project.csv')

# Remove the percentage symbol and convert "% Profit" column to float
so that there should not be error.
data['% Profit'] = data['% Profit'].str.rstrip('%').astype('float')

# Item that was most profitable in last quarter:
most_profitable_item = data.sort_values(by='% Profit',
ascending=False).iloc[0]['Item']
print("Most profitable item in the last quarter:",
most_profitable_item)

# Variance and standard deviation of all items:
profit_variance = data['% Profit'].var()
profit_std_dev = data['% Profit'].std()
print("Variance of % Profit:", profit_variance)
print("Standard Deviation of % Profit:", profit_std_dev)

# Graph comparing investment and return in the following data sheet:
import matplotlib.pyplot as plt
investment = data['Investment']
return_value = data['Return']
plt.plot(investment, label='Investment')
plt.plot(return_value, label='Return')
plt.xlabel('Items')
plt.ylabel('Amount')
plt.title('Investment vs. Return')
plt.legend()
plt.xticks(rotation=45)
plt.show()

# Net investment, return, profit, and taxes:
net_investment = data['Investment'].sum()
net_return = data['Return'].sum()
net_profit = data['Profit'].sum()
net_taxes = data['Taxation'].sum()
print("Net Investment:", net_investment)
print("Net Return:", net_return)
print("Net Profit:", net_profit)
print("Net Taxes:", net_taxes)
```

Output –

```
Most profitable item in the last quarter: Automatic Guns
Variance of % Profit: 1525.254836111111
Standard Deviation of % Profit: 39.05451108529091
```




```
Net Investment: 5453
Net Return: 6645
Net Profit: -4.099999999999994
Net Taxes: 1196.1
```