Importing the necessary Modules

```
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np
import seaborn as sns
import plotly.express as px
import plotly.graph_objects as go

data = pd.read_csv('/content/Company_Financial_Data.csv')

data
```

	Year	Total Revenue	Net Income	Total Assets	Total Liabilities	Cash Flow from Operating Activities	Company
0	2023	211915	72361	411976	205753	87582	Microsoft
1	2022	198270	72738	364840	198298	89035	Microsoft
2	2021	168088	61271	333779	191791	76740	Microsoft
3	2023	96773	14974	106618	43009	13256	Tesla
4	2022	81462	12556	82338	36440	14724	Tesla
5	2021	53821	5519	62131	30548	11497	Tesla
6	2023	383285	96995	352583	290437	110543	Apple
7	2022	394328	99803	352755	302083	122151	Apple
8	2021	365817	94680	351002	287912	104038	Apple

Next steps: Generate code with data | View recommended plots | New interactive sheet

Calculating Year-by-Year growth rates for Total Revenue and Net Income

```
data['Revenue Growth (%)'] = data.groupby('Company')['Total Revenue'].pct_change() * 100
data['Net Income Growth (%)'] = data.groupby('Company')['Net Income'].pct_change() * 100

data
```

	Year	Total Revenue	Net Income	Total Assets	Total Liabilities	Cash Flow from Operating Activities	Company	Revenue Growth (%)	Net Income Growth (%)
0	2023	211915	72361	411976	205753	87582	Microsoft	NaN	NaN
1	2022	198270	72738	364840	198298	89035	Microsoft	-6.438902	0.520999
2	2021	168088	61271	333779	191791	76740	Microsoft	-15.222676	-15.764800
3	2023	96773	14974	106618	43009	13256	Tesla	NaN	NaN
4	2022	81462	12556	82338	36440	14724	Tesla	-15.821562	-16.147990
5	2021	53821	5519	62131	30548	11497	Tesla	-33.931158	-56.044919
6	2023	383285	96995	352583	290437	110543	Apple	NaN	NaN
7	2022	394328	99803	352755	302083	122151	Apple	2.881146	2.894995
8	2021	365817	94680	351002	287912	104038	Apple	-7.230275	-5.133112

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```
data.fillna(0, inplace=True)

data
```

	Year	Total Revenue	Net Income	Total Assets	Total Liabilities	Cash Flow from Operating Activities	Company	Revenue Growth (%)	Net Income Growth (%)
0	2023	211915	72361	411976	205753	87582	Microsoft	0.000000	0.000000
1	2022	198270	72738	364840	198298	89035	Microsoft	-6.438902	0.520999
2	2021	168088	61271	333779	191791	76740	Microsoft	-15.222676	-15.764800
3	2023	96773	14974	106618	43009	13256	Tesla	0.000000	0.000000
4	2022	81462	12556	82338	36440	14724	Tesla	-15.821562	-16.147990
5	2021	53821	5519	62131	30548	11497	Tesla	-33.931158	-56.044919
6	2023	383285	96995	352583	290437	110543	Apple	0.000000	0.000000
7	2022	394328	99803	352755	302083	122151	Apple	2.881146	2.894995
8	2021	365817	94680	351002	287912	104038	Apple	-7.230275	-5.133112

Next steps: Generate code with data | View recommended plots | New interactive sheet

Calculating Year-by-Year growth rates for Total Assets, Total Liabilities and Cash flow from Operations Activities

```
data['Assets Growth (%)'] = data.groupby('Company')['Total Assets'].pct_change() * 100
data['Liabilities Growth (%)'] = data.groupby('Company')['Total Liabilities'].pct_change() * 100
data['Cash Flow from Operations Growth(%)'] = data.groupby('Company')['Cash Flow from Operating Activities'].pct_change() * 100
```

```
data
```

	Year	Total Revenue	Net Income	Total Assets	Total Liabilities	Cash Flow from Operating Activities	Company	Revenue Growth (%)	Net Income Growth (%)	Assets Growth (%)	Liabilities Growth (%)	Cash Flow from Operations Growth(%)
0	2023	211915	72361	411976	205753	87582	Microsoft	0.000000	0.000000	NaN	NaN	NaN
1	2022	198270	72738	364840	198298	89035	Microsoft	-6.438902	0.520999	-11.441443	-3.623276	1.659017
2	2021	168088	61271	333779	191791	76740	Microsoft	-15.222676	-15.764800	-8.513595	-3.281425	-13.809176
3	2023	96773	14974	106618	43009	13256	Tesla	0.000000	0.000000	NaN	NaN	NaN
4	2022	81462	12556	82338	36440	14724	Tesla	-15.821562	-16.147990	-22.772890	-15.273547	11.074231
5	2021	53821	5519	62131	30548	11497	Tesla	-33.931158	-56.044919	-24.541524	-16.169045	-21.916599
6	2023	383285	96995	352583	290437	110543	Apple	0.000000	0.000000	NaN	NaN	NaN
7	2022	394328	99803	352755	302083	122151	Apple	2.881146	2.894995	0.048783	4.009820	10.500891
8	2021	365817	94680	351002	287912	104038	Apple	-7.230275	-5.133112	-0.496945	-4.691095	-14.828368

Next steps: Generate code with data | View recommended plots | New interactive sheet

```
data.fillna(0, inplace=True)
data
```

	Year	Total Revenue	Net Income	Total Assets	Total Liabilities	Cash Flow from Operating Activities	Company	Revenue Growth (%)	Net Income Growth (%)	Assets Growth (%)	Liabilities Growth (%)	Cash Flow from Operations Growth(%)
0	2023	211915	72361	411976	205753	87582	Microsoft	0.000000	0.000000	0.000000	0.000000	0.000000
2	2021	168088	61271	333779	191791	76740	Microsoft	-15.222676	-15.764800	-8.513595	-3.281425	-13.809176

Next steps: Generate code with data | View recommended plots | New interactive sheet

```
data.to_csv('final_company_financial_data.csv')
```

```
summary = data.groupby('Company').agg({
    'Revenue Growth (%)': 'mean',
    'Net Income Growth (%)': 'mean',
    'Assets Growth (%)' : 'mean',
    'Liabilities Growth (%)' : 'mean',
    'Cash Flow from Operations Growth(%)' :'mean'
}).reset_index()
```

```
print('Year-By-Year Average Growth Rates(%) :-')
print('              OR')
print("Overall Growth/Fall rate for Apple, Microsoft and Tesla from Fiscal Year 2021 - 2023")
summary
```

```
Year-By-Year Average Growth Rates(%) :-
              OR
Overall Growth/Fall rate for Apple, Microsoft and Tesla from Fiscal Year 2021 - 2023
```

	Company	Revenue Growth (%)	Net Income Growth (%)	Assets Growth (%)	Liabilities Growth (%)	Cash Flow from Operations Growth(%)
0	Apple	-1.449710	-0.746039	-0.149388	-0.227092	-1.442492
1	Microsoft	-7.220526	-5.081267	-6.651679	-2.301567	-4.050053
2	Tesla	-16.584240	-24.064303	-15.771471	-10.480864	-3.614123

Next steps: Generate code with summary | View recommended plots | New interactive sheet

```
summary.to_csv('Summary_final_report.csv')
```

Start coding or generate with AI.