analyzing_annual_revenue

March 29, 2024

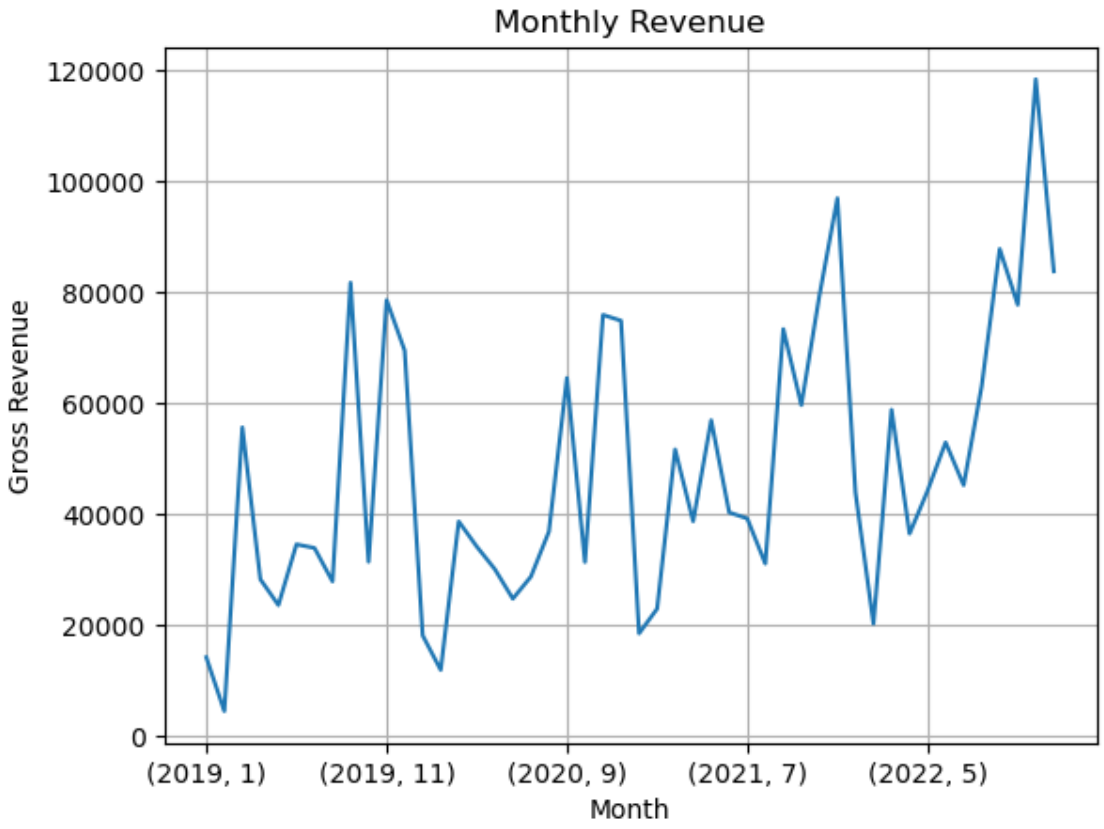
[1]:
```
# Importing the necessary libraries
import pandas as pd
import matplotlib.pyplot as plt

# Importing the csv data and exploring the data structure
df = pd.read_csv("superstore_data.csv")
df.head()
```

[1]:

	Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Segment	Country/Region	City	…	Postal Code	Region	Product ID	Category	Sub-Category	Product Name	Sales	Quantity	Discount	Profit
0	1	CA-2021-152156	11/8/2021	11/11/2021	Second Class	CG-12520	Claire Gute	Consumer	United States	Henderson	…	42420.0	South	FUR-BO-10001798	Furniture	Bookcases	Bush Somerset Collection Bookcase	261.9600	2		
1	2	CA-2021-152156	11/8/2021	11/11/2021	Second Class	CG-12520	Claire Gute	Consumer	United States	Henderson	…	42420.0	South	FUR-CH-10000454	Furniture	Chairs	Hon Deluxe Fabric Upholstered Stacking Chairs,…	731.9400	3		
2	3	CA-2021-138688	6/12/2021	6/16/2021	Second Class	DV-13045	Darrin Van Huff	Corporate	United States	Los Angeles	…	90036.0	West	OFF-LA-10000240	Office Supplies	Labels	Self-Adhesive Address Labels for Typewriters b…	14.6200	2		
3	4	US-2020-108966	10/11/2020	10/18/2020	Standard Class	SO-20335	Sean O'Donnell	Consumer	United States	Fort Lauderdale	…	33311.0	South	FUR-TA-10000577	Furniture	Tables	Bretford CR4500 Series Slim Rectangular Table	957.5775	5		
4	5	US-2020-108966	10/11/2020	10/18/2020	Standard Class	SO-20335	Sean O'Donnell	Consumer	United States	Fort Lauderdale	…	33311.0	South	OFF-ST-10000760	Office Supplies	Storage	Eldon Fold 'N Roll Cart System	22.3680	2		

```
0      0.00   41.9136
1      0.00  219.5820
2      0.00    6.8714
3      0.45 -383.0310
4      0.20    2.5164

[5 rows x 21 columns]
```

[2]:
```python
# Converting order dates to datetime format
df['Order Date'] = pd.to_datetime(df['Order Date'])  # Convert 'Order Date' column to datetime format

# Extract month and year from the 'date' column
df['order_month'] = df['Order Date'].dt.month
df['order_year'] = df['Order Date'].dt.year

# Analyzing company sales over time
monthly_sales = df.groupby(['order_year', 'order_month'])['Sales'].sum()

# Visualizing the data
monthly_sales.plot(x=['order_year', 'order_month'],y="Sales")
plt.title('Monthly Revenue')
plt.xlabel('Month')
plt.ylabel('Gross Revenue')
plt.grid(True)
plt.figure(figsize=(10, 8))
plt.show()
```

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<Figure size 1000x800 with 0 Axes>
```

[3]:
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# Analyzing company sales over time
cat_sales = df.groupby('Category')['Sales'].sum()
cat_sales = cat_sales.sort_values(ascending = False)

#Assigning colors
colors=['green','blue','orange']

# Visualizing the data
cat_sales.plot(x='Category',y='Sales', kind = 'bar', color = colors)
plt.show()
```
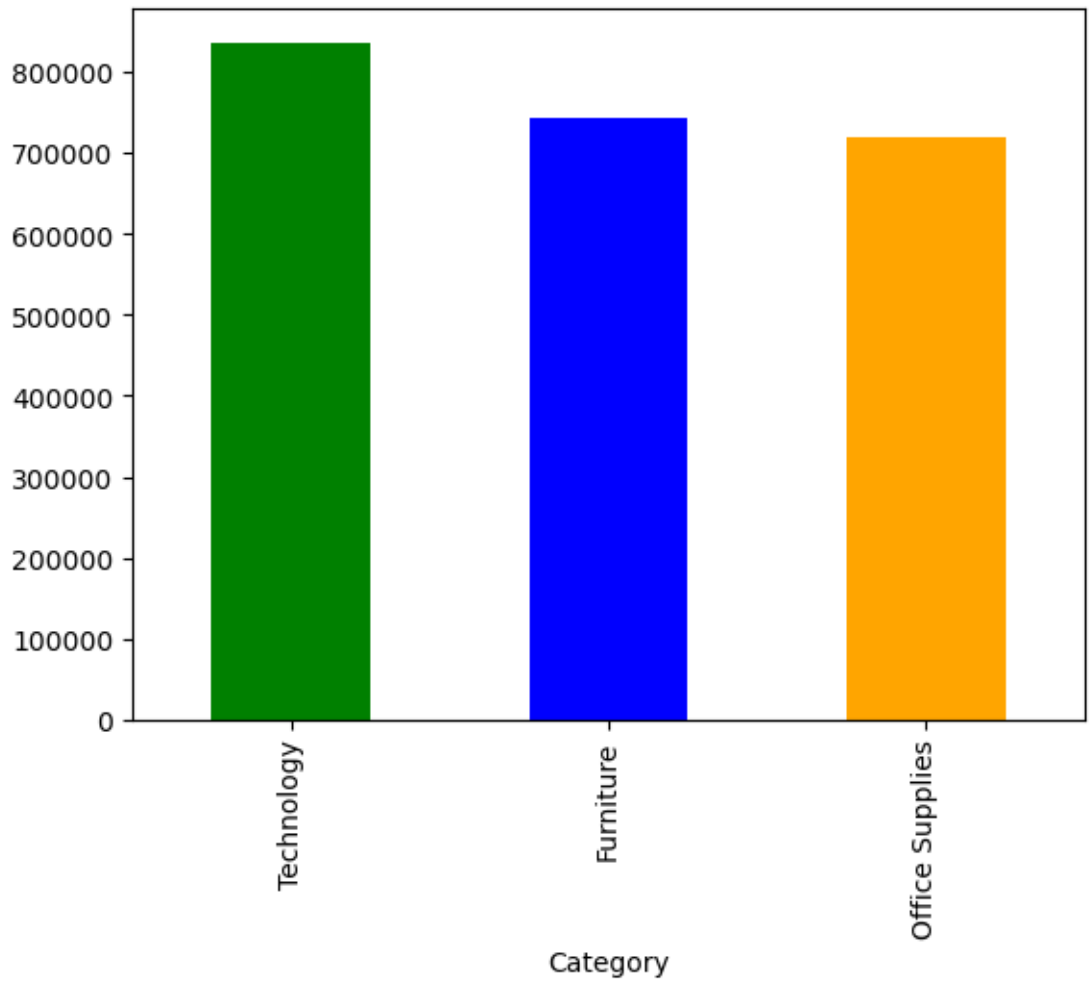
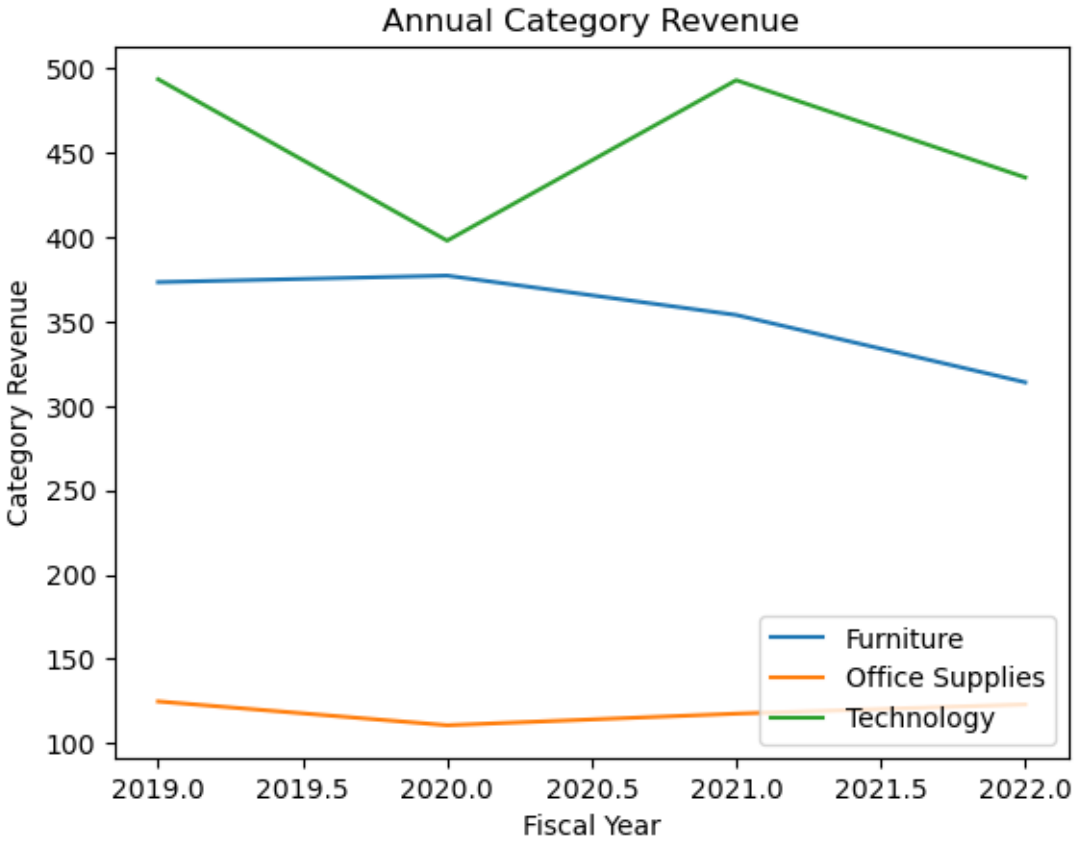



[4]:
```
# Analyzing Annual Category sales YoY
annual_cat_sales = df.pivot_table(values='Sales', index='order_year',␣
 ↪columns='Category', fill_value=0)

# Analyzing Sub-Category sales over time
annual_sub_cat_sales = df.
 ↪groupby(['order_year','Category','Sub-Category'])['Sales'].sum()
# print(annual_sub_cat_sales)

# Visualizing the data
annual_cat_sales.plot()

plt.title('Annual Category Revenue')
plt.xlabel("Fiscal Year")
plt.ylabel("Category Revenue")
plt.legend(loc = 'lower right')
```

```
plt.show()

# Show data under chart as well
print(annual_cat_sales)
```




```
Category     Furniture  Office Supplies  Technology
order_year
2019        373.379699       124.713568  493.741501
2020        377.252737       110.582968  397.997088
2021        353.917146       117.458481  493.168148
2022        313.975611       122.925662  435.466043
```