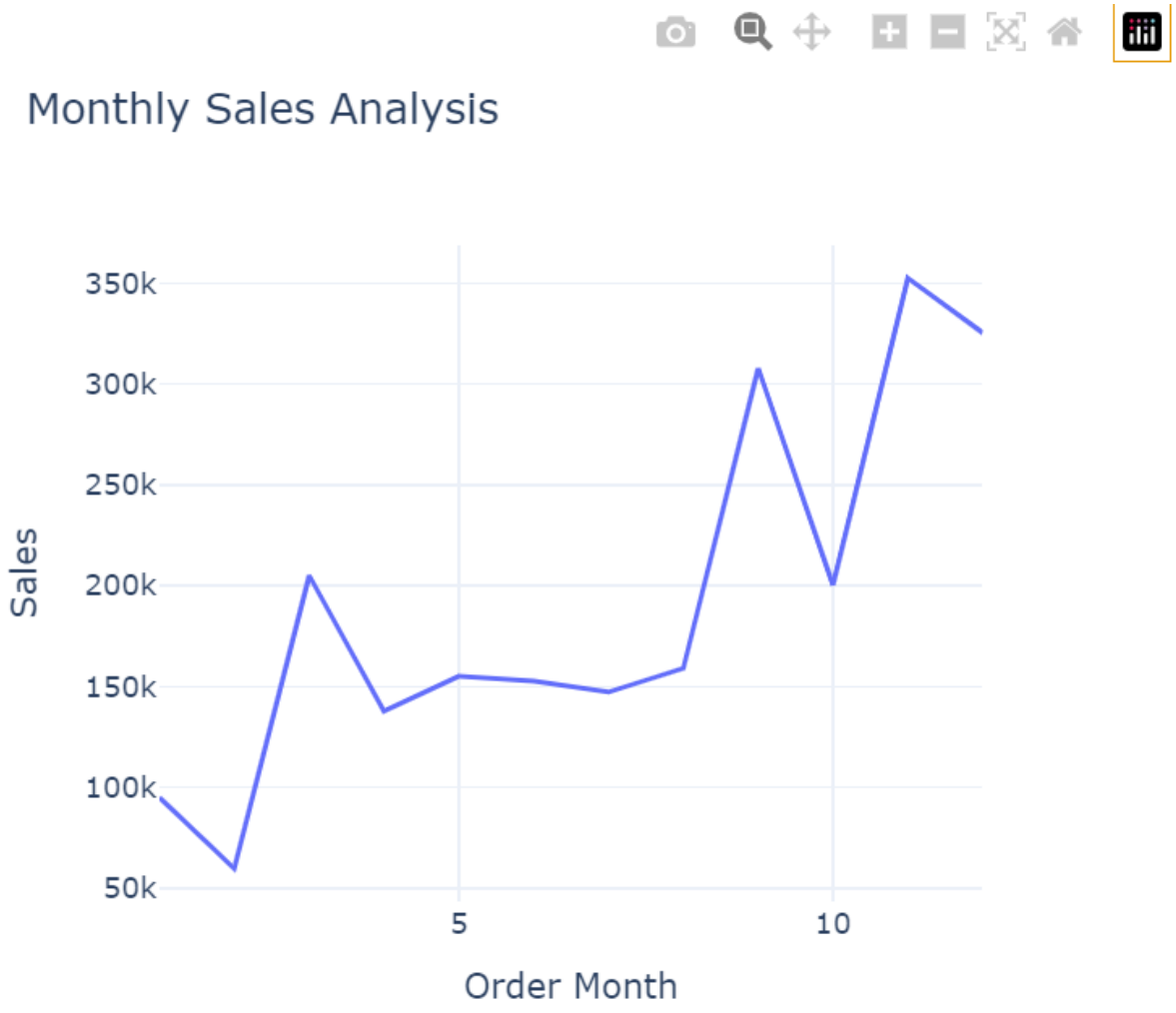
1- Montly sales Analysis

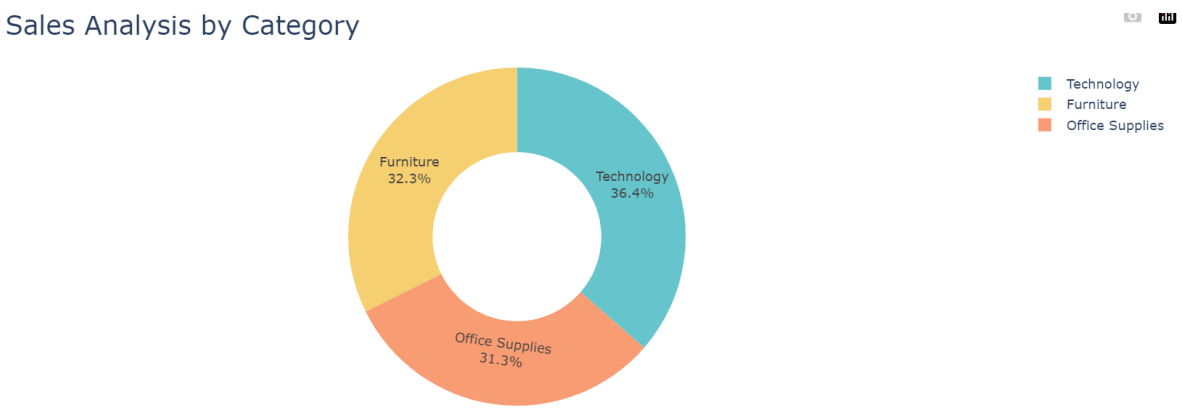
```
sales_by_month = data.groupby('Order Month')['Sales'].sum().reset_index()
fig = px.line(sales_by_month,
              x='Order Month',
              y='Sales',
              title='Monthly Sales Analysis')
fig.show()
```



2-Sales Analysis by category

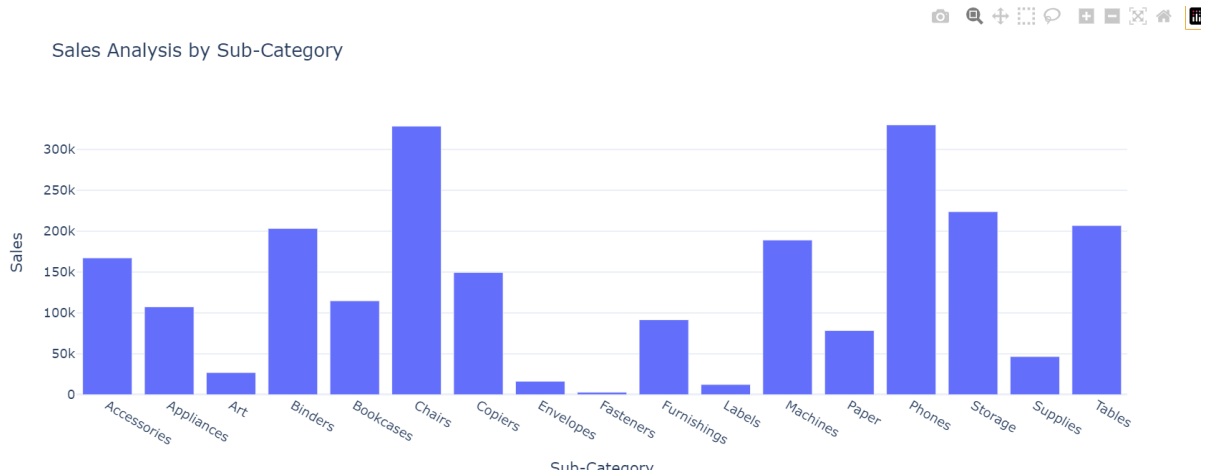
```
sales_by_category = data.groupby('Category')['Sales'].sum().reset_index()
fig = px.pie(sales_by_category,
```

```
        values='Sales',
        names='Category',
        hole=0.5,
        color_discrete_sequence=px.colors.qualitative.Pastel)

fig.update_traces(textposition='inside', textinfo='percent+label')
fig.update_layout(title_text='Sales Analysis by Category', title_font=dict(size=24))

fig.show()
```



3-Sales Analysis by sub-category

```
sales_by_subcategory = data.groupby('Sub-Category')['Sales'].sum().reset_index()
fig = px.bar(sales_by_subcategory,
        x='Sub-Category',
        y='Sales',
        title='Sales Analysis by Sub-Category')
fig.show()
```



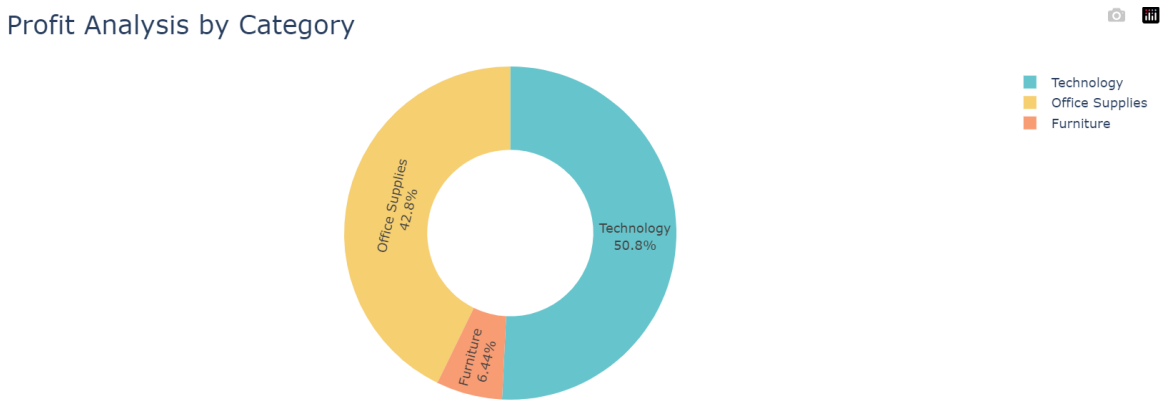
4- Monthly profit Analysis

```
profit_by_month = data.groupby('Order Month')['Profit'].sum().reset_index()
fig = px.line(profit_by_month,
              x='Order Month',
              y='Profit',
              title='Monthly Profit Analysis')
fig.show()
```

6- profit Analysis by category

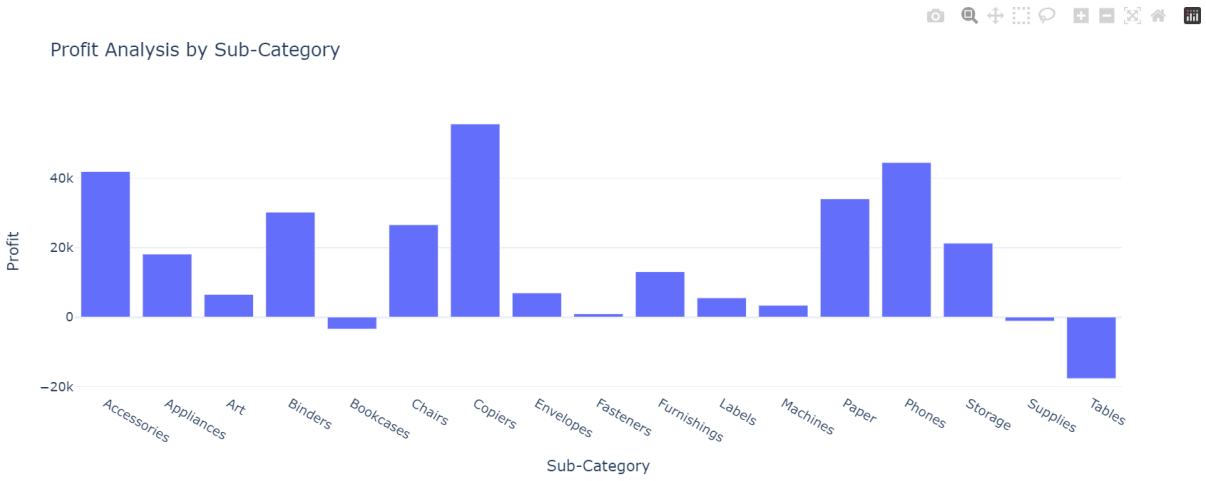
```
profit_by_subcategory = data.groupby('Sub-Category')['Profit'].sum().reset_index()
fig = px.bar(profit_by_subcategory, x='Sub-Category',
             y='Profit',
```

```
        title='Profit Analysis by Sub-Category')
fig.show()
```



7- profit Analysis by sub-category

```
profit_by_subcategory = data.groupby('Sub-Category')['Profit'].sum().reset_index()
fig = px.bar(profit_by_subcategory, x='Sub-Category',
        y='Profit',
        title='Profit Analysis by Sub-Category')
fig.show()
```



8- Sales and Profit Analysis by Customer Segment

```
sales_profit_by_segment = data.groupby('Segment').agg({'Sales': 'sum', 'Profit': 'sum'}).reset_index()

color_palette = colors.qualitative.Pastel

fig = go.Figure()
fig.add_trace(go.Bar(x=sales_profit_by_segment['Segment'],
                     y=sales_profit_by_segment['Sales'],
                     name='Sales',
                     marker_color=color_palette[0]))

fig.add_trace(go.Bar(x=sales_profit_by_segment['Segment'],
                     y=sales_profit_by_segment['Profit'],
                     name='Profit',
                     marker_color=color_palette[1]))

fig.update_layout(title='Sales and Profit Analysis by Customer Segment',
                  xaxis_title='Customer Segment', yaxis_title='Amount')

fig.show()
```