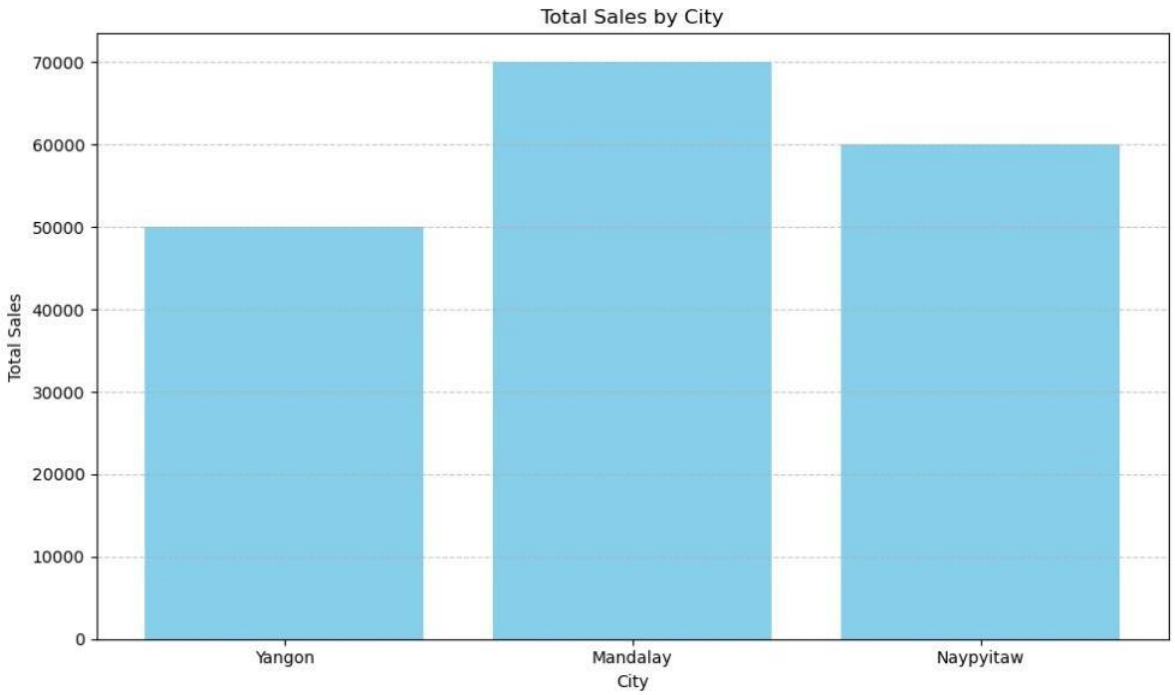
:Assignment -1:

Source Code:

```
#BAR CHART
import matplotlib.pyplot as plt
import pandas as pd
# Sample data
data = {
    'Branch': ['A', 'B', 'C'],
    'Rating': [4.5, 4.2, 4.6],
    'Gender': ['Male', 'Female', 'Others'],
    'Total': [50000, 70000, 60000],
    'City': ['Yangon', 'Mandalay', 'Naypyitaw']
}
# Convert data to DataFrame
df = pd.DataFrame(data)
# Plotting the bar chart
plt.figure(figsize=(10, 6))
plt.bar(df['City'], df['Total'], color='yellow')
plt.xlabel('City')
plt.ylabel('Total Sales')
plt.title('Total Sales by City')
plt.grid(axis='y', linestyle='--', alpha=0.7)
plt.tight_layout()
plt.show()
```

OUTPUT :

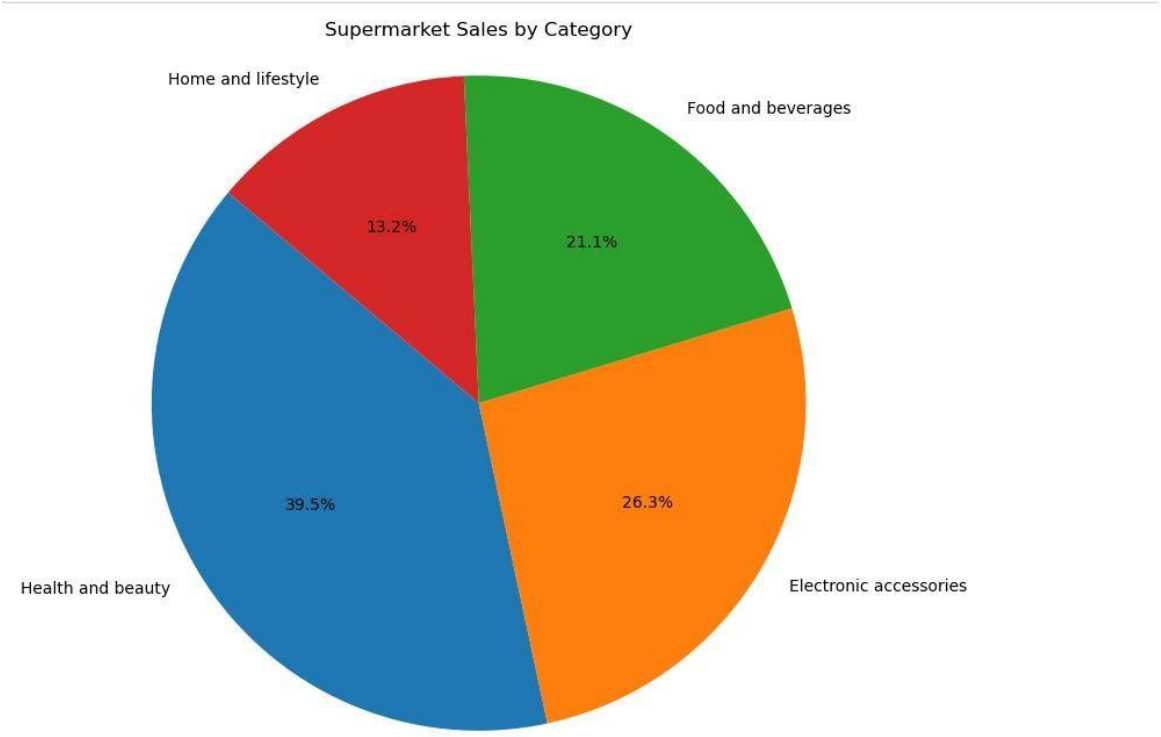


Source Code:

```
#PIE CHART
import pandas as pd
import matplotlib.pyplot as plt

# Sample data for the supermarket
data = {
    'Product line': [ 'Health and beauty', 'Electronic accessories', 'Food and beverages', 'Home and lifestyle'],
    'gross income':  [15000, 10000, 8000, 5000]
}

# Create a DataFrame
df = pd.DataFrame(data)

# Create a pie chart
plt.figure(figsize=(8, 8))
plt.pie(df['gross income'], labels=df['Product line'], autopct='%1.1f%%', startangle=140)
```

```
plt.axis('equal')  # Equal aspect ratio ensures that pie is drawn as a circle.
plt.title('Supermarket Sales by Category')
# Display the pie chart
plt.show()
```

OUTPUT:

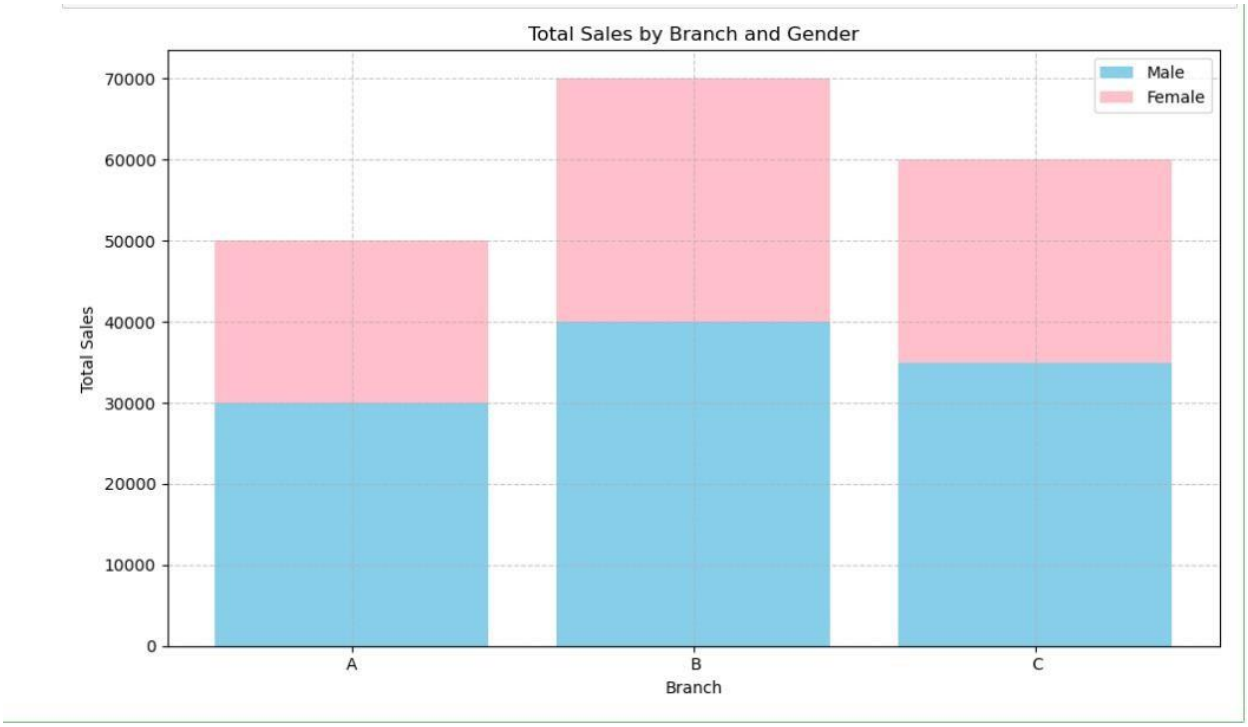


Source Code:

```
#Stacked Bar Chart
import matplotlib.pyplot as plt
import pandas as pd
# Sample data
data = {
    'Branch': ['A', ' B', ' C'],
    'Total': [30000, 40000, 35000],
    'Rating': [20000, 30000, 25000],
}
```

```
# Convert data to DataFrame
df = pd.DataFrame(data)
# Plotting the stacked bar chart
plt.figure(figsize=(10, 6))
# Plotting the bars for male total sales
plt.bar(df['Branch'], df['Total'], color='skyblue', label='Male')
# Plotting the bars for female total sales on top of male total sales
plt.bar(df['Branch'], df['Rating'], bottom=df['Total'], color='pink', label='Female')
plt.xlabel('Branch')
plt.ylabel('Total Sales')
plt.title('Total Sales by Branch and Gender')
plt.legend()
plt.grid(True, linestyle='--', alpha=0.7)
plt.tight_layout()
plt.show()
```

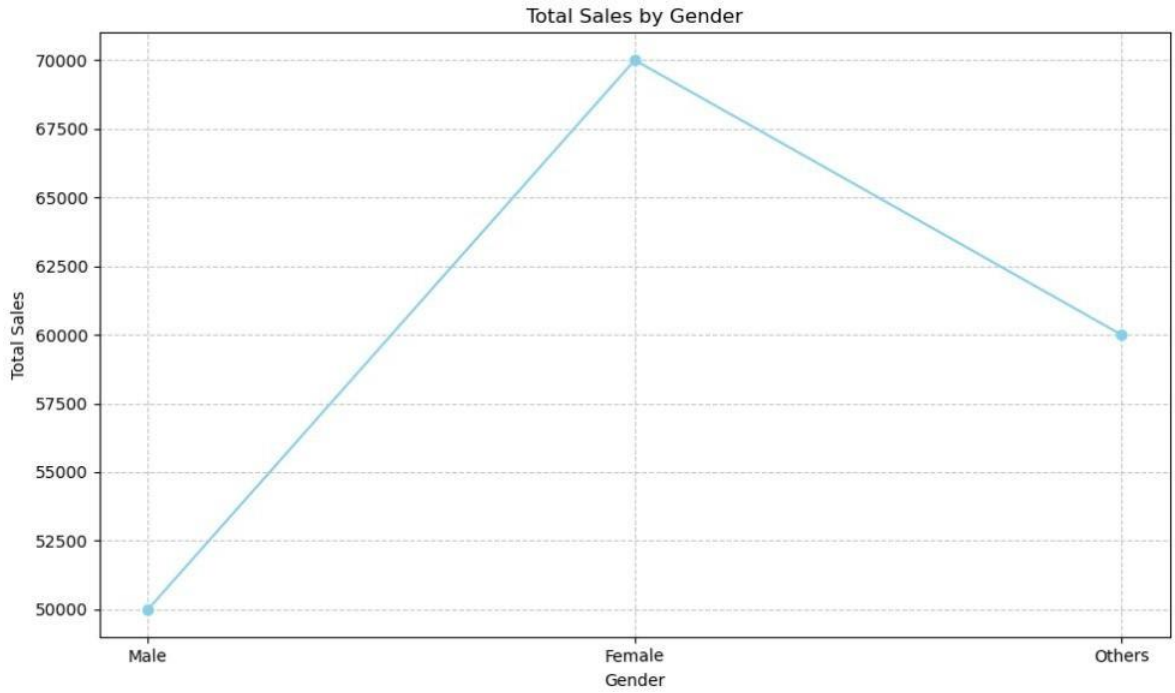
OUTPUT:



Source Code:

```
#LINE CHART
import matplotlib.pyplot as plt
import pandas as pd
# Sample data
data = {
    'Branch': ['A', ' B', 'C'],
    'Rating': [4.5, 4.2, 4.6],
    'Gender': ['Male', 'Female', 'Others'],
    'Total': [50000, 70000, 60000],
    'City': ['Yangon', 'Mandalay', 'Naypyitaw']
}
# Convert data to DataFrame
df = pd.DataFrame(data)
# Plotting the line chart
plt.figure(figsize=(10, 6))
plt.plot(df['Gender'], df['Total'], marker='o', color='skyblue', linestyle='-')
plt.xlabel('Gender')
plt.ylabel('Total Sales')
plt.title('Total Sales by Gender')
plt.xticks(rotation=1)
plt.grid(True, linestyle='--', alpha=0.7)
plt.tight_layout()
plt.show()
```

OUTPUT:



Source code:

```
#Bubble Chart
import matplotlib.pyplot as plt
import pandas as pd
# Sample data
data = {
    'Branch': ['A', 'B', 'C'],
    'Rating': [4.5, 4.2, 4.6],
    'Gender': ['Male', 'Female', 'Others'],
    'Total': [50000, 70000, 60000],
    'City': ['Yangon', 'Mandalay', 'Naypyitaw']
}
# Convert data to DataFrame
df = pd.DataFrame(data)
# Plotting the bubble chart
plt.figure(figsize=(10, 6))
plt.scatter(df['Branch'], df['Rating'], s=df['Total']/1000, alpha=0.5, c='skyblue', edgecolors='k', linewidth=1)
plt.xlabel('Branch')
plt.ylabel('Rating')
```

```
plt.title('Bubble Chart of Rating by Branch (Total Sales)')
plt.xticks(rotation=3)
plt.grid(True, linestyle='--', alpha=0.7)
plt.tight_layout()
plt.show()
```

OUTPUT: