

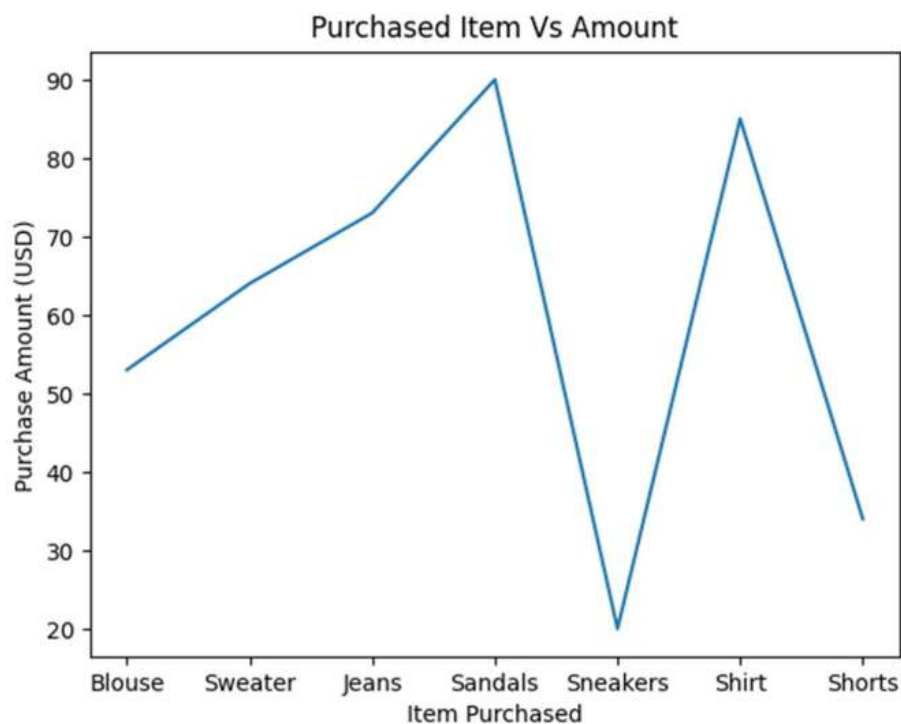
RESULTS

DATA VISUALIZATION:

Line Graph:

```
import matplotlib.pyplot as plt
x=df1['Item Purchased']
y=df1['Purchase Amount (USD)']
plt.xlabel('Item Purchased')
plt.ylabel('Purchase Amount (USD)')
plt.title('Purchased Item Vs Amount')
plt.plot(x, y)
plt.show()
```

OUTPUT:

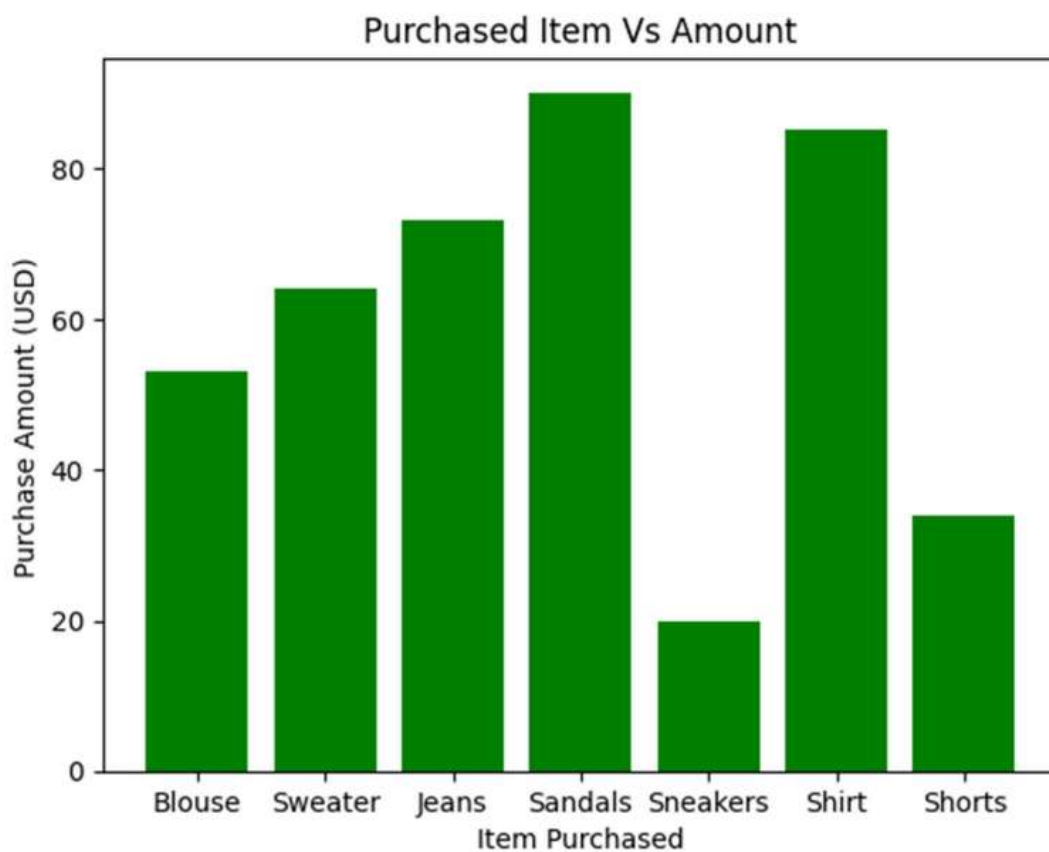


This line graph will display diet type purchased items and amount of products with item purchased on the x-axis and the purchase amount(USD) on the y-axis. Our goal is to gain insights into the price ranges of the different products. As we observe the lines for each item type, we will discern trends and fluctuations in their popularity, helping us understand the price ranges of different products.

Bar Graph:

```
import matplotlib.pyplot as plt
x=df1['Item Purchased']
y=df1['Purchase Amount (USD)']
plt.bar(x,y,color='green')
plt.xlabel('Item Purchased')
plt.ylabel('Purchase Amount (USD)')
plt.title('Purchased Item Vs Amount')
plt.show()
```

OUTPUT:

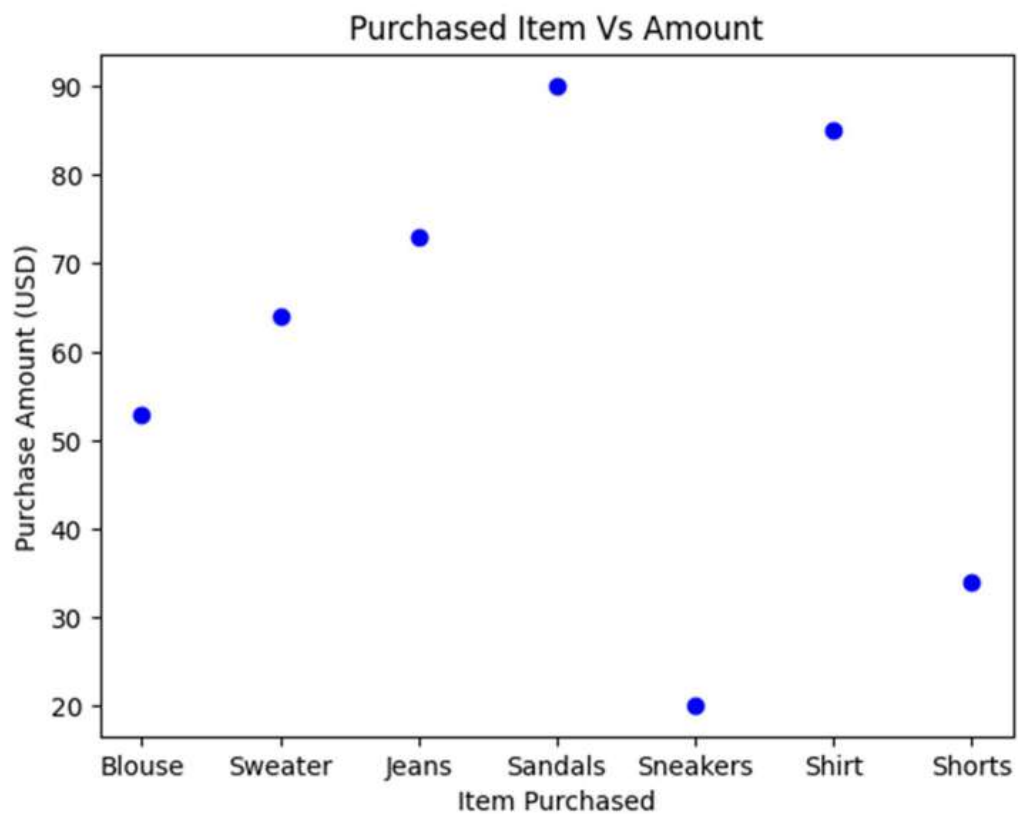


The above bar graph represents the item purchased for the different kind of products. This can vary significantly depending on the nature of the product, the quality, also on the complexity of importance of products in the market.

Scatter Plot:

```
import matplotlib.pyplot as plt
x = df1['Item Purchased']
y = df1['Purchase Amount (USD)']
plt.scatter(x,y,color='blue')
plt.xlabel('Item Purchased')
plt.ylabel('Purchase Amount (USD)')
plt.title('Purchased Item Vs Amount')
plt.show()
```

OUTPUT:

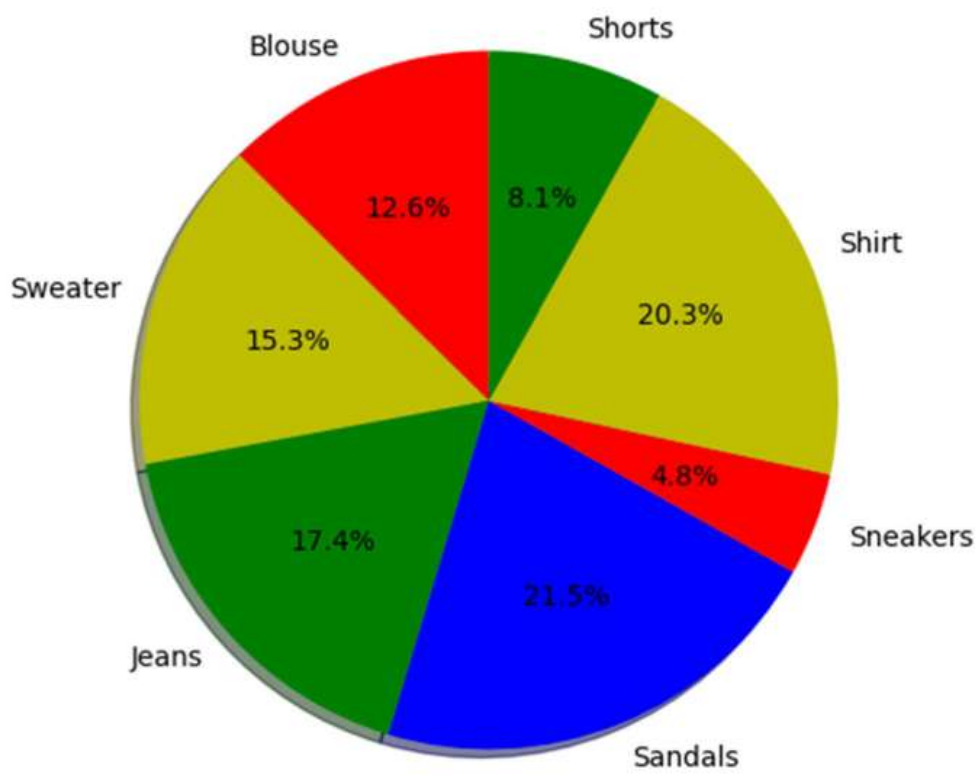


An scatter graph serves as an excellent tool for portraying the distribution of different price ranges. This scatter graph displays items purchased on the x-axis, and the y-axis represents the purchase amount of the products. The scatter points showcase the varying of the price ranges.

Pie Chart:

```
import matplotlib.pyplot as plt
items=df1['Item Purchased']
slices=df1['Purchase Amount (USD)']
colors = ['r', 'y', 'g', 'b']
plt.pie(slices, labels = items, colors=colors, startangle=90, shadow = True, radius = 1.2,
autopct = '%1.1f%%')
plt.show()
```

OUTPUT:

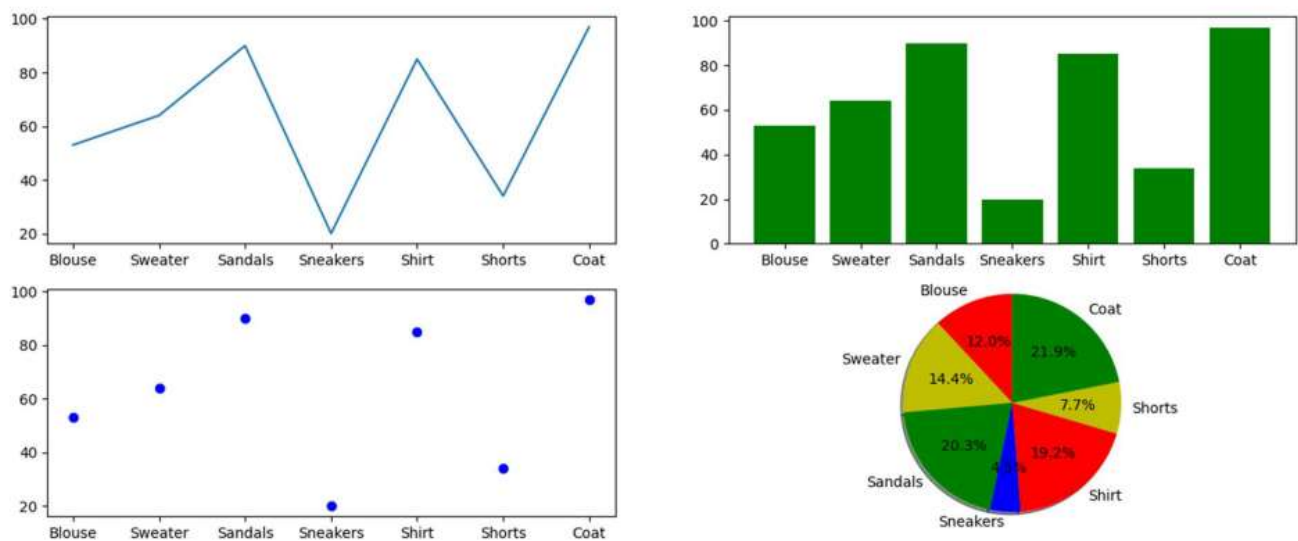


SUBPLOT:

```
import matplotlib.pyplot as plt
x=df1['Item Purchased']
y=df1['Purchase Amount (USD)']
plt.subplot(2,2,1)
plt.plot(x, y)
x=df1['Item Purchased']
y=df1['Purchase Amount (USD)']
plt.subplot(2,2,2)
plt.bar(x,y,color='green')
x=df1['Item Purchased']
y=df1['Purchase Amount (USD)']
plt.subplot(2,2,3)
plt.scatter(x,y,color='blue')
```

```
plt.scatter(x,y,color='blue')
items=df1['Item Purchased']
slices=df1['Purchase Amount (USD)']
colors = ['r', 'y', 'g', 'b']
plt.subplot(2,2,4)
plt.pie(slices, labels = items, colors=colors,
        startangle=90, shadow = True,
        radius = 1.2, autopct = '%1.1f%%')
plt.subplots_adjust(bottom=1,right=2,top=2)
plt.show()
```

OUTPUT:



Subplots present with a holistic view of product prices, change in range of prices, the diversity of prices. Our first subplot presents a line graph that illustrates the purchased items, our second subplot features a bar graph. Our third subplot i.e Scatter graph. Our fourth subplot unravels the count of products.