Analysis 2 :

1. Can you tell me No of Vehicles by Brand Available on ebay for sale with the help of visualization.

I have used the code:

df = datac.groupby(['brand'])['brand'].count()

df.plot(kind="bar")

plt.xlabel("count")

plt.ylabel("brand")

plt.title("No of Vehicles by Brand Available on ebay for sale")

plt.show()

datac.groupby(['brand'])['brand'].count()` is used to group the "datac" dataset by the "brand" column and count the number of occurrences for each brand. This creates a new DataFrame with the brand names as the index and the corresponding count of vehicles for each brand.

Next, I used the `plot()` function with `kind="bar"` to create a bar plot based on the counts. The x-axis is labeled as "count" using `plt.xlabel()`, and the y-axis is labeled as "brand" using `plt.ylabel()`. The title of the plot is set to "No of Vehicles by Brand Available on eBay for sale" with `plt.title()`. Finally, it displays the plot using `plt.show()`.

This visualization helps to understand the distribution of vehicles available on eBay for sale by brand.

2. What is the Average price for vehicles based on the type of vehicle as well as on the type of gearbox.Explain me with both numerical and visualization analysis.

I have used the code :

avg\_price=datac.groupby(["vehicleType","gearbox"])["price"].mean()

avg\_price avg\_price=datac.groupby(["vehicleType","gearbox"])["price"].mean()

avg\_price.plot(kind="bar")

plt.xlabel("vehicleType and gearbox type")

plt.ylabel("average price")

plt.title("avg price of vehicletype and gearbox")

plt.show()

In the code I grouped the "datac" dataset by the combination of "vehicleType" and "gearbox" columns and calculated the mean price for each combination using `mean()`. This created a new DataFrame with the average price for each vehicle type and gearbox type.

Then, I created a bar plot to visualize the average prices using `plot(kind="bar")`. The x-axis represents the vehicle type and gearbox type, and the y-axis represents the average price. The plot title is set as "Average Price of Vehicle Type and Gearbox".

By creating this visualization, we can easily compare the average prices of different vehicle types and gearbox combinations. It provides a visual representation of the data.

3. What is the marginal probability of private seller.

I have used this code :

pd.crosstab(index=datac["seller"]=="privat",columns=data["seller"]=="gewerblich",rownames=["privat"],colnames=["gewerblich"],normalize="all",margins=True)

In the code I grouped the "datac" dataset by the combination of "vehicleType" and "gearbox" columns and calculated the mean price for each combination using `mean()`.

This created a new DataFrame with the average price for each vehicle type and gearbox type.

Then, I created a bar plot to visualize the average prices using `plot(kind="bar")`. The x-axis represents the vehicle type and gearbox type, and the y-axis represents the average price. The plot title is set as "Average Price of Vehicle Type and Gearbox".

By creating this visualization, we can easily compare the average prices of different vehicle types and gearbox combinations. It provides a visual representation of the data.