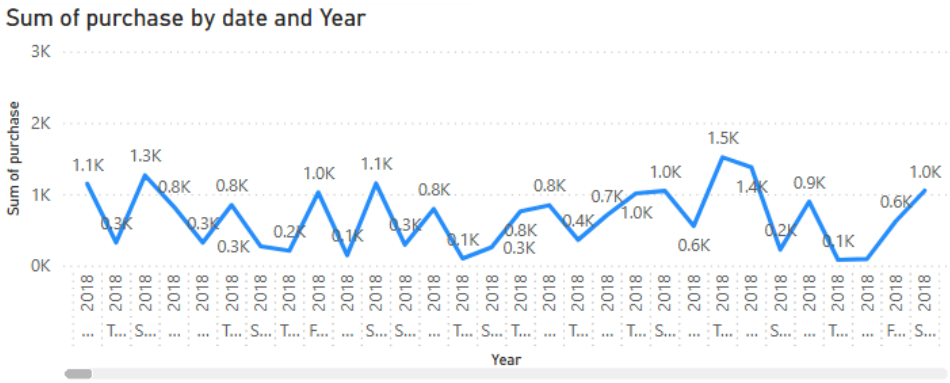
1. Label the first tab "Q1". Create a matrix for every company with the total sum of purchases by year. Use data bars for conditional formatting of the purchase sums by year. Which company has the highest total sum of purchases?

   The company with the highest total sum of purchases is Linkbuzz

CompanyName	2018	2019	2020	2021	2022	Total
Linkbuzz	6816	11261	6446	6578	10922	**42023**
Thoughtmix	5724	2878	4094	6497	4081	**23274**
Rhynyx	5841	2744	3256	7423	2861	**22125**
Pixoboo	3616	3706	3814	3238	5932	**20306**
Shufflester	2878	4241	4591	2485	6079	**20274**
Oyoba	4003	2438	4046	4186	5483	**20156**
Twitterbeat	2688	5369	3294	3303	4528	**19182**
Oozz	3308	441	2919	4121	4056	**14845**
Buzzshare	2657	1760	5587	3139	1580	**14723**
Brightdog	4146	1359	767	2075	4775	**13122**
Dabshots	1798	1982	3402	1941	3591	**12714**
Wikibox	1609	1047	3276	2508	4113	**12553**
Tazzy	2537	90	4577	2771	2211	**12186**
Fazzy	1934	1909	683	4182	3255	**11963**
Total	**130379**	**122950**	**106520**	**141307**	**146698**	**647854**

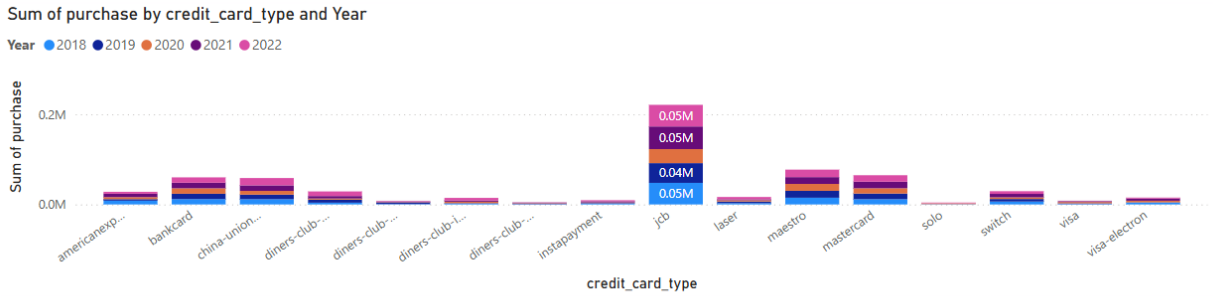
2. Create a new tab labeled "Q2". Choose the most appropriate visualization to show the total purchases over time. Add data labels to the visualization. Explain the trend over the past five years.

   Despite fluctuations, there does not appear to be a consistent upward or downward trend. Purchases seem to rise and fall within a relatively stable range



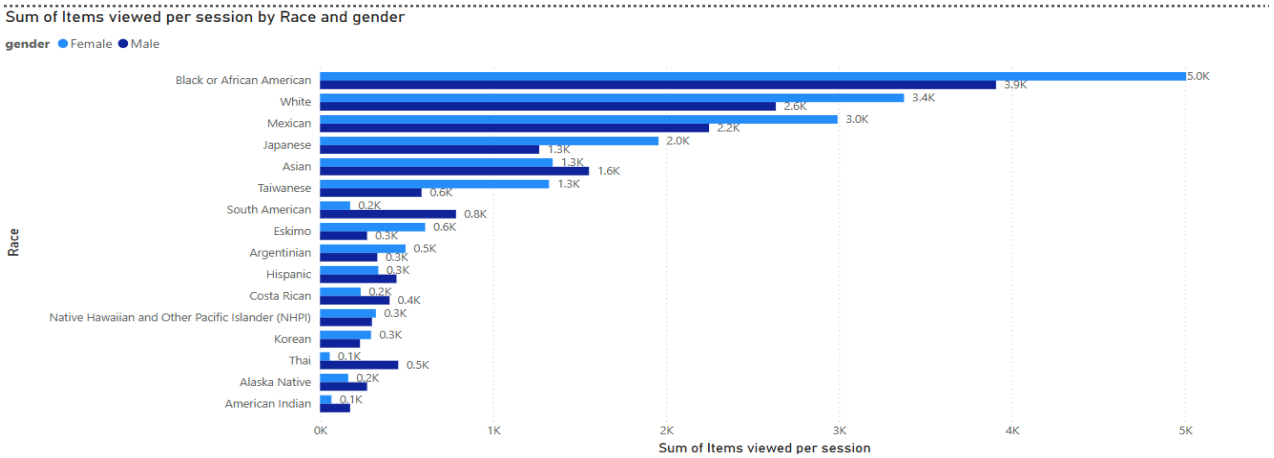
3. Create a new tab labeled "Q3". Create the most appropriate visualization to show the number of purchases by credit card type over the last five years. Explain the trend.

   Most credit card types exhibit consistent purchase levels over the five years (2018 to 2022), without significant spikes or drops, implying stable usage patterns. There doesn't seem to be a particular year with a significant increase or decrease across all credit card types, suggesting no large shifts in payment preferences within this period .

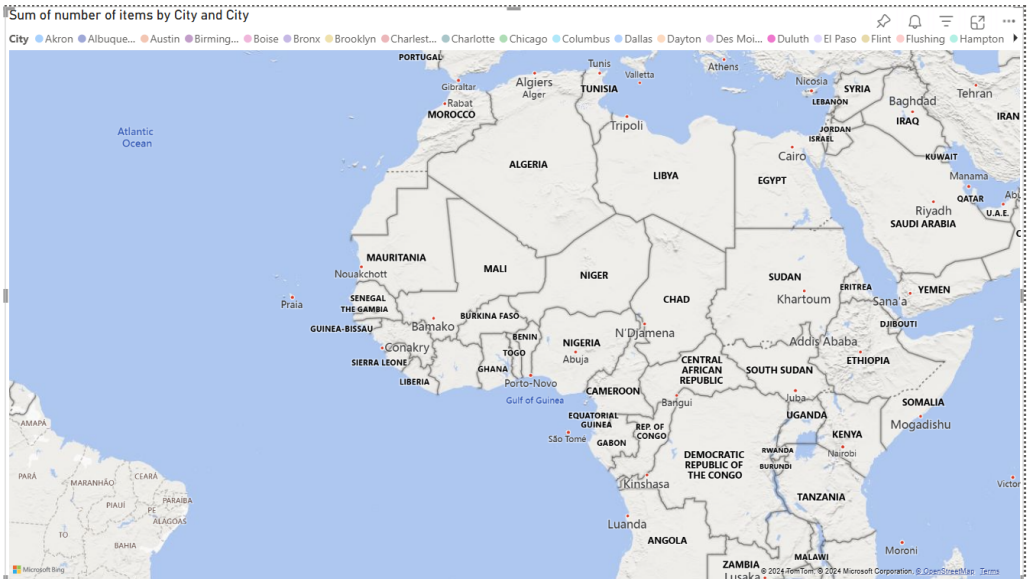


4. Create a new tab labeled "Q4". Create the most appropriate visualization to show the number of items viewed per session by race and gender. Add data labels. Which race viewed the highest number of items per session? Which gender viewed the highest number of items per session?

   Black or African American individuals have the highest total number of items viewed per session, and Female have the Highest Number of Items Viewed per Session.

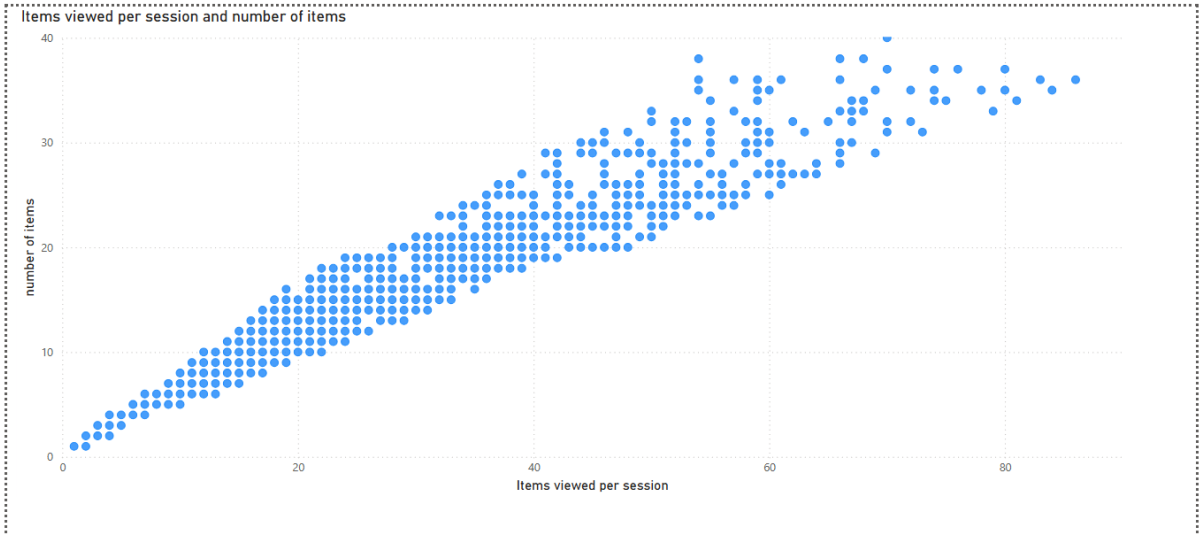


5. Create a new tab labeled "Q5". Plot the number of items by city. Include the city name in the legend. Only include sums of the number of items greater than 100. Are there any cities outside of the US? If there are, what are they? What trends do you see on the map?



6. Create a new tab labeled "Q6". Create a scatter plot to show the relationship between the items viewed per session and the number of items. Explain the relationship.

   The scatter plot suggests that as users view more items per session, the total number of items they interact with tends to increase, showing a positive relationship between these two metrics.



7. Create a new tab labeled "Q7". Create a measure to calculate the percent of items purchased (number of items) out of the items viewed per session. Create an appropriate visualization to show the new measure by credit card type. Add data labels. Describe your findings.

credit_card_type

credit_card_type	Sum of number of items	Sum of Items viewed per session
americanexpress	840	1556
bankcard	1835	3247
china-unionpay	1749	3207
diners-club-carte-blanche	863	1589
diners-club-enroute	223	409
diners-club-international	421	780
diners-club-us-ca	138	241
instapayment	281	476
jcb	6475	11699
laser	521	941
maestro	2236	4098
mastercard	1925	3452

8. On the Q7 tab, use a function to bring together the first and last names. Be sure to include a space between the first and last names. Rename the field "FullName". Add a card that provides the unique count of customers.

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Count of credit_card_type

Full	Name
Aaron	Baker
Aaron	Chapman
Aaron	Peters
Aaron	Rivera
Adam	Jenkins
Adam	Marshall
Adam	Snyder
Adam	Watson
Alan	Gonzales
Albert	Roberts

credit_card_type	Sum of number of items	Sum of Items viewed per session
americanexpress	840	1556
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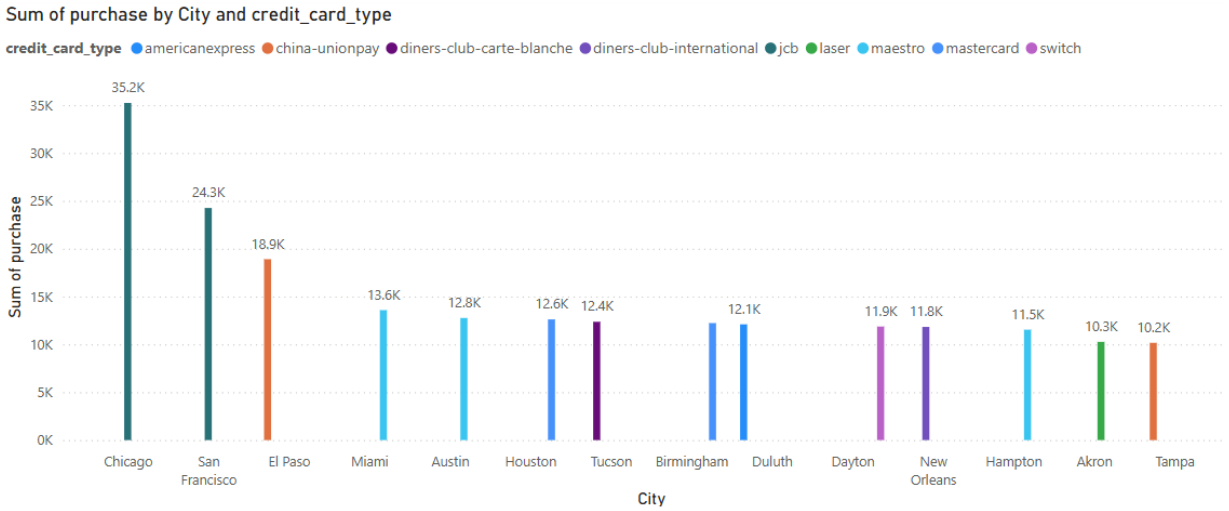
diners-club-us-ca	138	241
instapayment	281	476
jcb	6475	11699
laser	521	941
maestro	2236	4098
mastercard	1925	3452

9. Create a new tab labeled "Q9". Create the most appropriate visualization to show the sum of purchases by city. Only include sums of purchases greater than or equal to $10,000. Create a slicer for credit card type. Remove any credit cards that are "Blank" from the visualization. Explain your findings.

The data reveals a concentration of high-value purchases in major cities, with a few specific credit card types like American Express and Mastercard showing frequent usage



10. Create a new tab labeled "Q10". Create your own dashboard here that does not repeat one of the above questions. The dashboard must include at least two types of visualizations and at least one slicer. Describe what you are showing, the question being addressed, and the analysis results. Make this visualization complicated. You have multiple measures in the data set, giving the visualization depth and detail.

    There are differences in spending patterns by credit card type and gender. Females tend to spend more with specific credit cards like Instapayment, while males spend more with cards like Laser.

credit_card_type	Female	Male	Total
americanexpress	34.47	24.86	**30.51**
bankcard	24.76	33.44	**25.37**
china-unionpay	29.89	28.57	**28.89**
diners-club-carte-blanche	29.00	29.52	**29.43**
diners-club-enroute	24.44	27.00	**25.56**
diners-club-international	32.95	22.00	**31.20**
diners-club-us-ca	23.29	19.50	**21.91**
instapayment	33.50	27.50	**29.75**
jcb	26.15	27.12	**26.53**
laser	20.29	30.73	**28.52**
maestro	26.52	29.03	**28.07**
mastercard	25.61	27.13	**26.35**
solo	8.00	24.75	**20.18**
switch	26.32	24.18	**25.91**
visa	21.08	18.86	**20.26**
visa-electron	29.67	19.71	**25.31**
Total	**26.52**	**27.54**	**26.98**

gender	Sum of number of items
Female	10428
Male	8741
Total	**19169**

JobTitle	gender
Account Coordinator	Female
Account Coordinator	Male
Account Executive	Male
Account Representative I	Male
Account Representative II	Female
Account Representative IV	Female
Account Representative IV	Male
Accountant I	Female
Accountant I	Male
Accountant II	Female
Accountant III	Female
Accountant III	Male
Accountant IV	Female
Accounting Assistant I	Male
Accounting Assistant II	Female
Accounting Assistant IV	Female
Actuary	Female
Actuary	Male
Administrative Assistant IV	Female
Administrative Assistant IV	Male
Administrative Officer	Female
Administrative Officer	Male
Analog Circuit Design manager	Female
Analyst Programmer	Female
Analyst Programmer	Male
Assistant Manager	Female