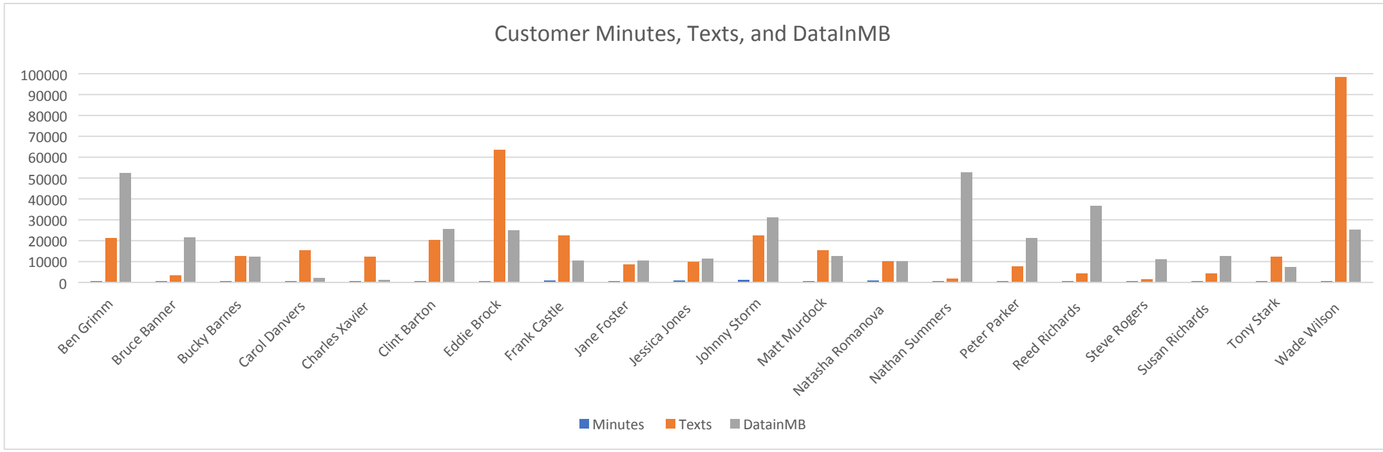
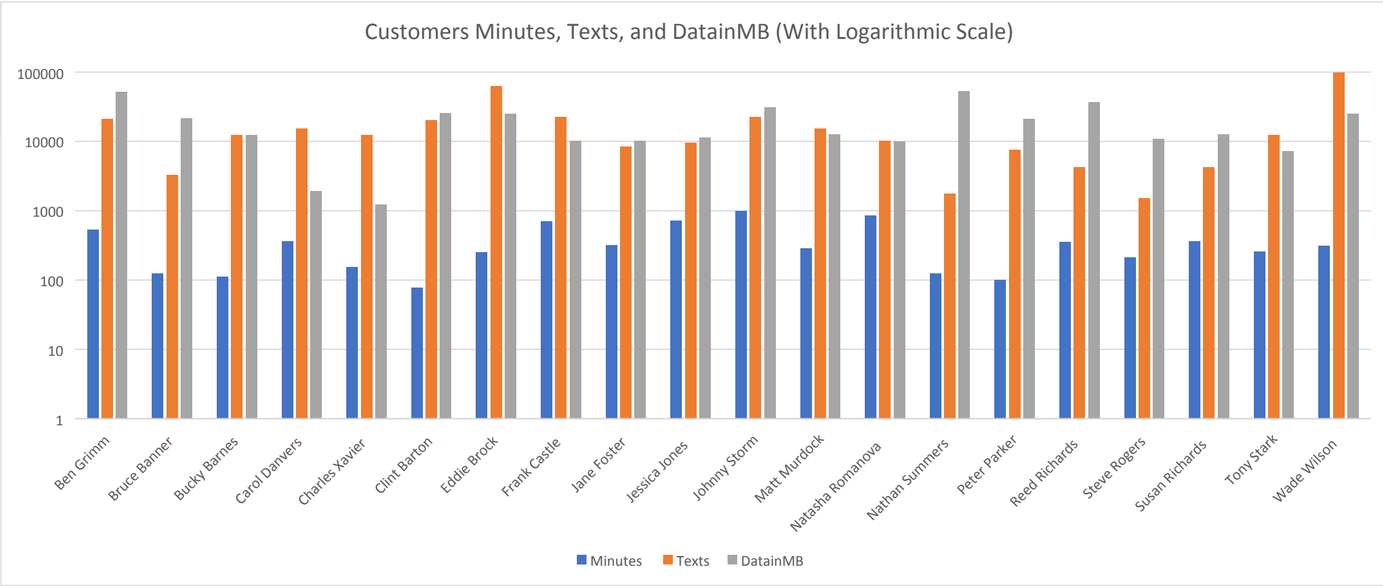
Report Questions with Visualization

Part 1 - A

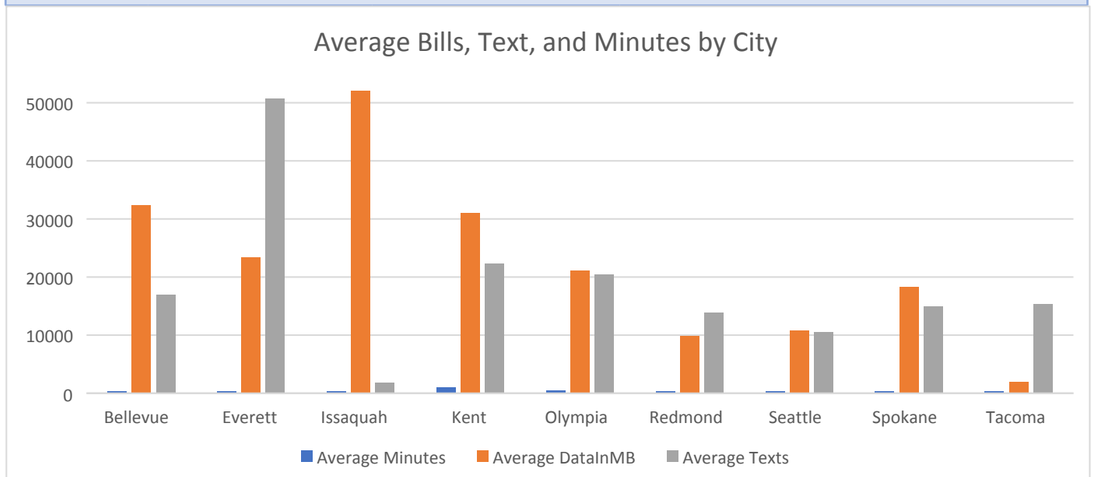
First and Last I	Minutes	Texts	DatainMB	Bill Total
Ben Grimm	533	21332	52339	131.5
Bruce Banner	125	3252	21563	121.5
Bucky Barnes	112	12452	12356	74.71
Carol Danvers	359	15332	1912	87
Charles Xavier	155	12335	1221	149
Clint Barton	78	20159	25352	101
Eddie Brock	250	63352	25003	141.5
Frank Castle	702	22542	10235	224.12
Jane Foster	320	8449	10256	97.62
Jessica Jones	715	9663	11256	139
Johnny Storm	988	22368	31022	194.26
Matt Murdock	288	15236	12568	159.41
Natasha Roma	855	10121	10000	104
Nathan Summe	125	1752	52669	204
Peter Parker	101	7596	21052	112
Reed Richards	352	4253	36588	139.41
Steve Rogers	212	1533	10950	164
Susan Richards	365	4256	12635	139.41
Tony Stark	257	12369	7259	219
Wade Wilson	311	98254	25332	179

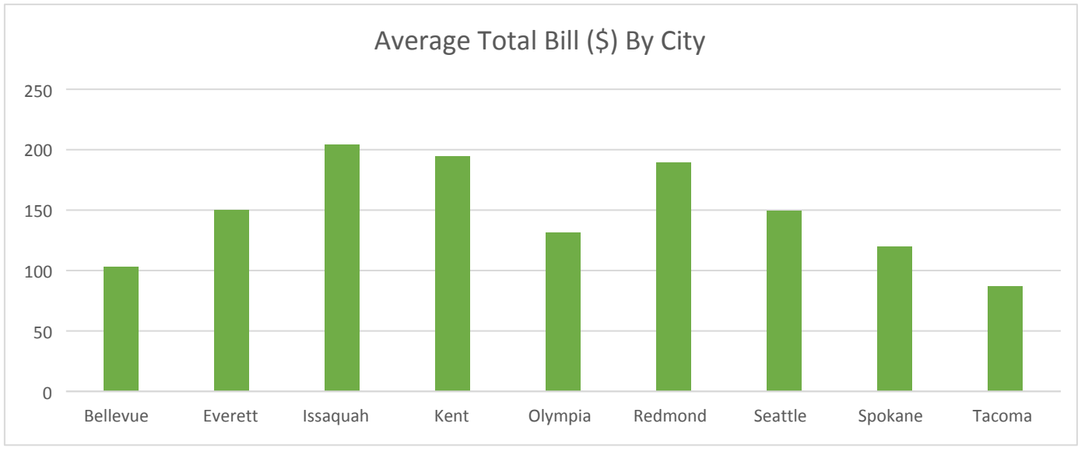




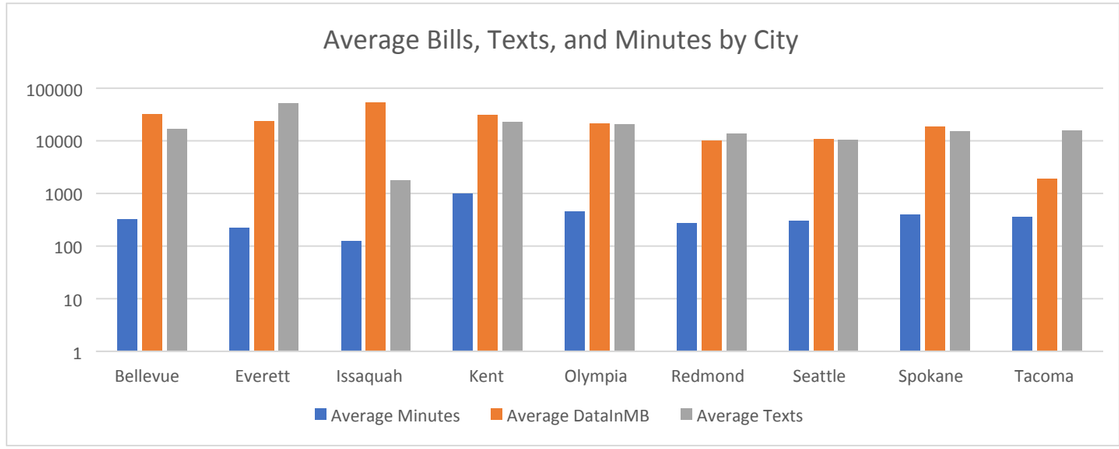
In this query, we have provided all the customers' full names (first and last), their usage in terms of minutes, texts, data (in mb) for the last month, as well as their bills. This provides a clear summary of our current customer base as well as a summary of their usage. We see that our customer Wade Wilson uses the most texts at around 100,000 texts in just the last month, but little mobile data usage. This could indicate that there is a reverse proportionate relationship between data usage and number of texts sent. Looking at the customers totals, we see that Frank Castle has the highest total bill last month, at about 220, followed closesly by Tony Stark. This allows us to create more questions in our next study to see what drives their cost up to that level and how to maintain customers who spend this much. Moreover, looking at our minutes, we see that Johnny Storm has the highest minutes, followed by Natasha Romanova. We can also further observe relationship between minutes and other usage.

Part 1 - B				
City	Average Minutes	Average DataInMB	Average Texts	Average Bill Total
Bellevue	322	32347	16892	103.105
Everett	218	23447	50753	150.25
Issaquah	125	52669	1752	204
Kent	988	31022	22368	194.26
Olympia	455	21056	20495	131.08
Redmond	272	9913	13802	189.205
Seattle	298	10742	10491	149.348
Spokane	396	18304	14911	120
Tacoma	359	1912	15332	87



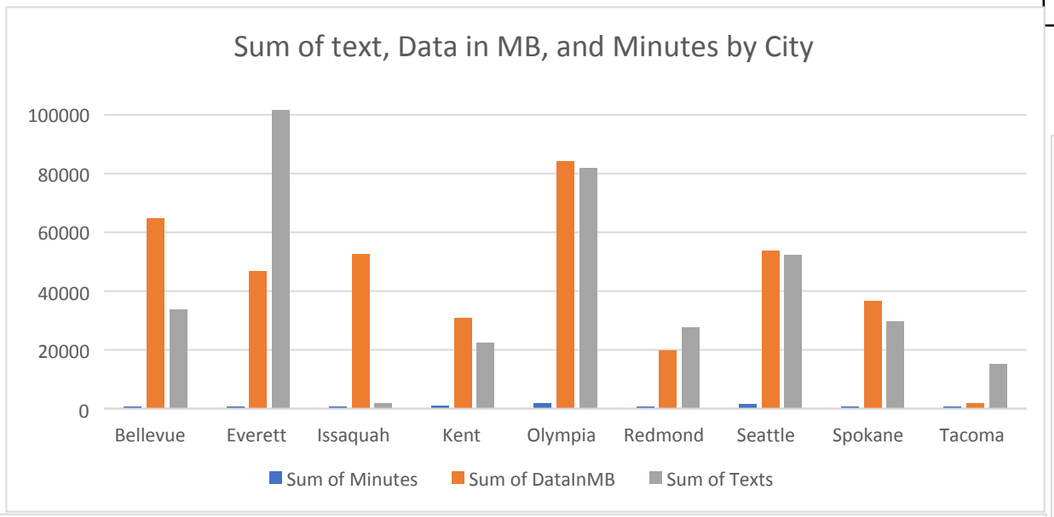


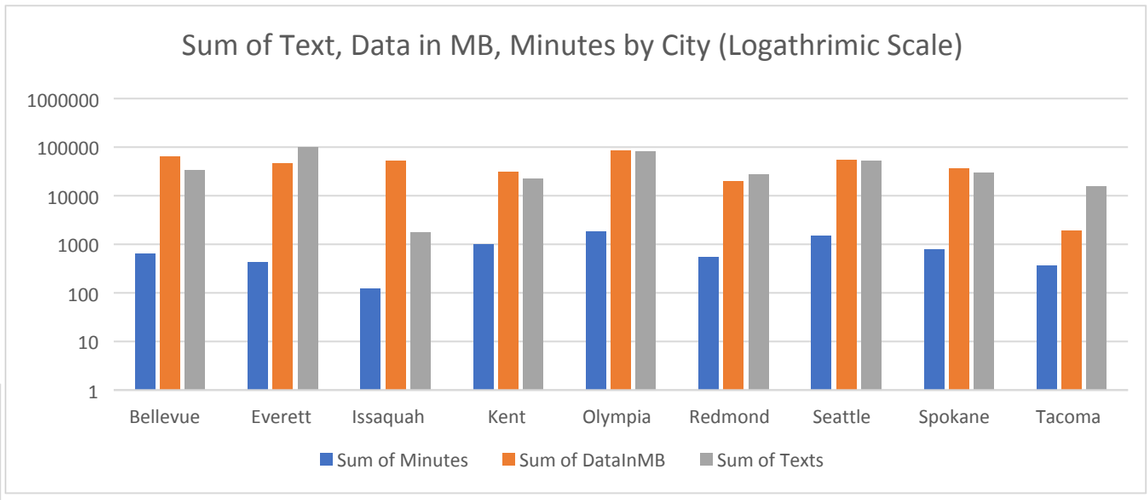
In this query, we found the average minutes, data used (in Mb), and texts as well as average bill, by city. We see that the average Bill in Issaquah is the highest, while the average bill in Tacoma is the lowest. This could the purchasing power of each community. Based on this, we can see which city we should promote the more expensive plans and which city we should promote the lower priced ones. Moreover, looking at Kent has the highest average minutes while Issaquah has the lowest. Moreover, we see that the average texts is higest at Everett, while it is lowest at Spokane. Finally, looking at the data used, Issaquah is the highest while Tacoma is the lowest. As we can see, that Issaquah has the most expensive average bill, as well as the most average data used. This could mean the price is somewhat proportional to the data usage and we can explore this relationship in later studies.

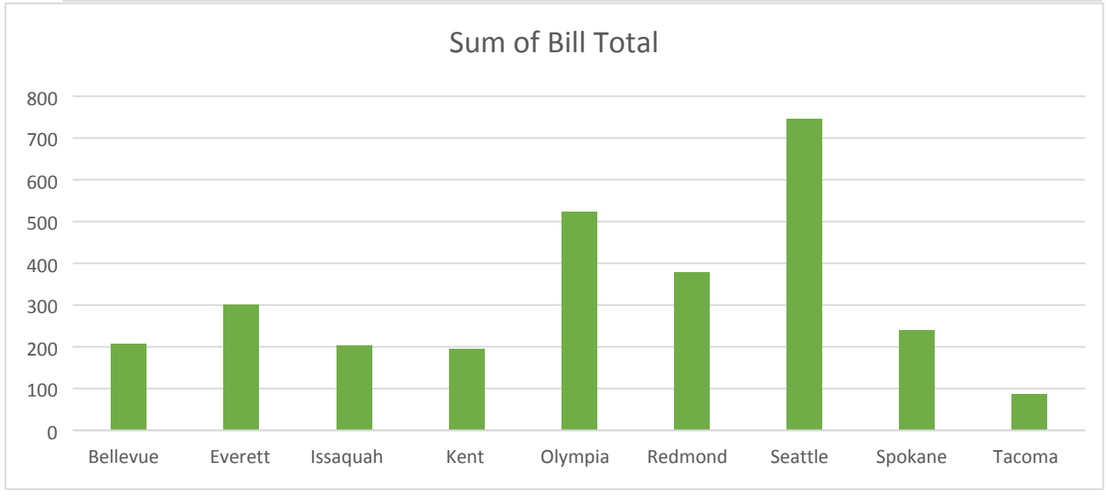


Part 1 - C				
City	Sum of Minutes	Sum of DataInMB	Sum of Texts	Sum of Bill Total
Bellevue	645	64695	33784	206.21
Everett	436	46895	101506	300.5
Issaquah	125	52669	1752	204
Kent	988	31022	22368	194.26
Olympia	1822	84226	81982	524.32
Redmond	545	19827	27605	378.41
Seattle	1490	53714	52455	746.74
Spokane	793	36608	29822	240
Tacoma	359	1912	15332	87

In this query, we were able to find the sum of all bills, sum of texts, and sum of DataInMB by city that we service. We see that in Olympia has the highest total minutes compared to other areas based on minutes. Seattle comes in a close second. This could mean that if we were to invest in better antenna for better signal, Olympia and Seattle is where we should go first as it seems people there rely on phone calls. Moreover, we see that Olympia uses the most data out of all the other cities, while Tacamo uses very little data. This could mean that we should reduce promotions of our unlimited data plans in those cities with lower data usage as it does not seem to be utilized and find some other plan that can suit thier needs better. Looking at the total text usage, Everett uses the most texting, while Tacoma uses the least amount of texting. Looking at the total bill of each city, Seattle spends the most while Tacoma spends the least. We should promote higher end, more expensive plans to Seattle and other high spenders while increased promotion of low priced plans in low spending cities.



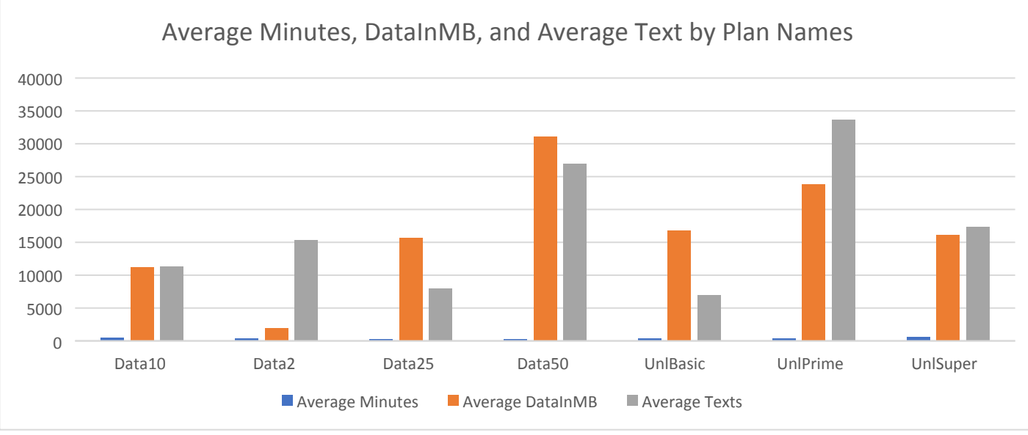


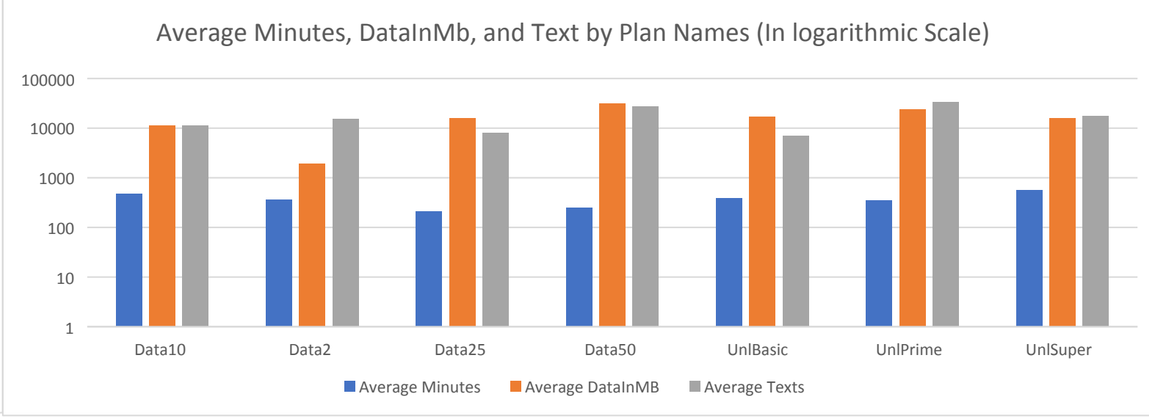


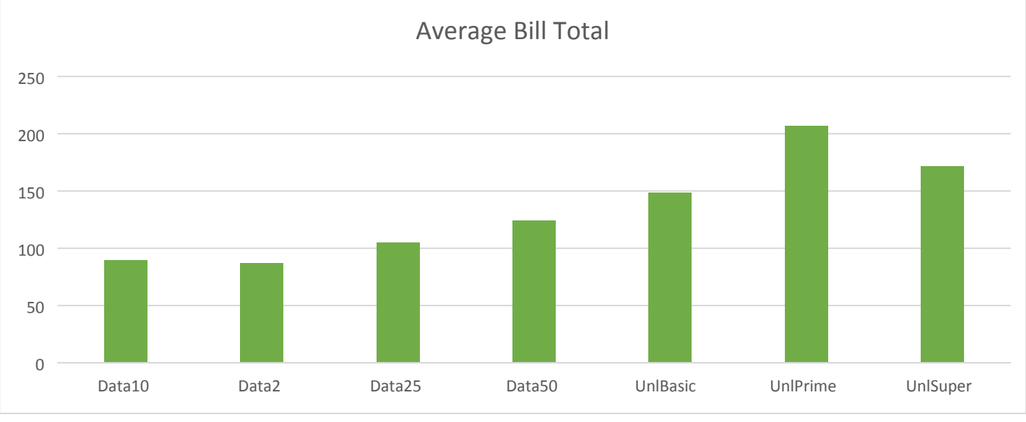
Part 1 - D

PlanName	Average Minutes	Average DataInMB	Average Texts	Average Bill Total
Data10	483	11178	11286	89.355
Data2	359	1912	15332	87
Data25	210	15654	8022	104.81
Data50	246	31064	27023	123.875
UnlBasic	386	16799	6988	148.246
UnlPrime	348	23873	33729	206.53
UnlSuper	571	16121	17351	171.63

In this query, we see each of our plan names, their average minutes, average data used, and average text used, as well as the average total bill. We see that customers with the Data50 plan uses the most data, while customers with Data2 uses the least. We understand why customers in Data2 uses the least data, because they are alloted the least. But, we would think that our unlimited plan users would use more data. So, we should see who uses Data50 plan and see if we can convince them to change to one of our unlimited plans. Moreover, we see that customers using our UnlSuper plan uses the most phone calls, closely followed by Data 10. In addition, we see high average text usage in our UnlPrime, while low text usage in our UnlBasic plan. Looking at the price, we see that UnlPrime is our premier packages, while our Data2 plan is our cheapest. We can use this information to choose which plan to promote to which areas based on price, text usage, data usage, and minute usage. Each area is unique and we can study their preferences and advertise to them which plan has what people in that certain area needs.



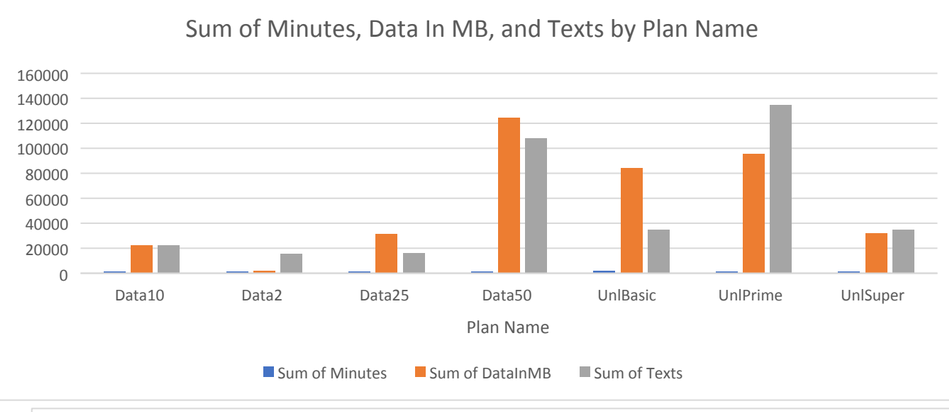


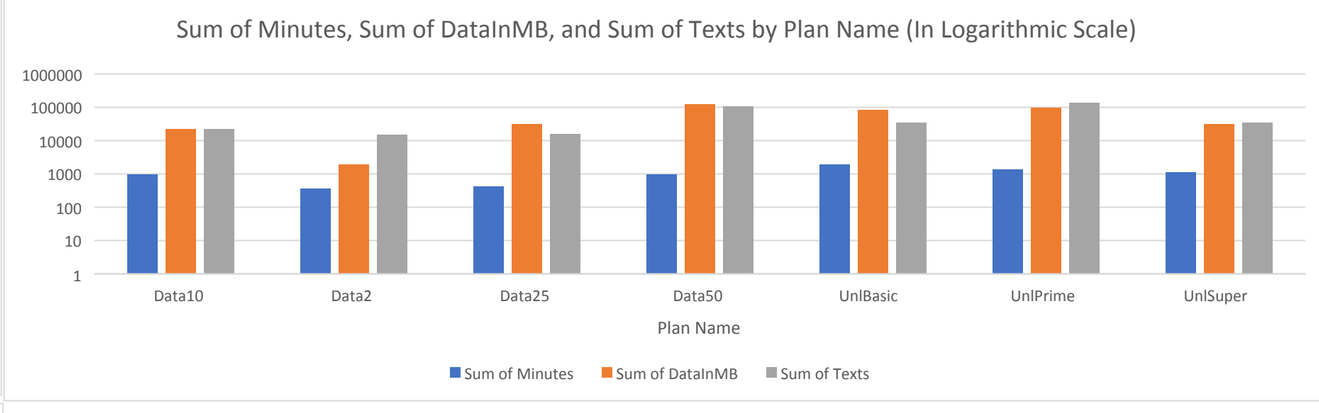


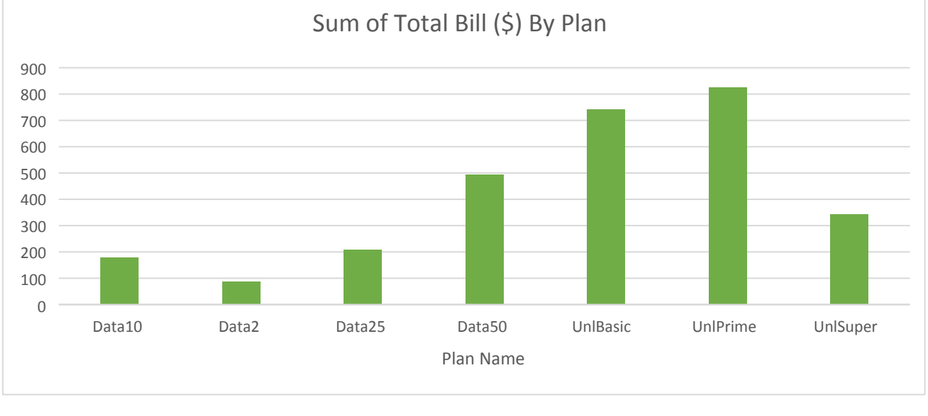
Part 1 - E

PlanName	Sum of Minutes	Sum of DataInMB	Sum of Texts	Sum of Bill Total
Data10	967	22356	22573	178.71
Data2	359	1912	15332	87
Data25	421	31308	16045	209.62
Data50	986	124257	108095	495.5
UnlBasic	1932	83997	34941	741.23
UnlPrime	1395	95495	134917	826.12
UnlSuper	1143	32243	34703	343.26

In this query, we see the sum of minutes, sum of data in MB, sum of texts and sum of bills for each plan. We see that the sum of minutes is the highest UnlBasic, while Data2 users uses the lowest minutes. This could mean two things, people in Data2 uses super little minutes, or there is a small user base for Data2 and plans with little minutes used. Moreover, looking at the sum of texts, UnlPrime uses the most, while Data2 uses the least. Looking at the sum of data used, we see that Data50 users uses the most data, collectively, while Data2 users use the least data. We also see that our Data2 plan earns the lowest and our UnlPrime earns the most. This could be because there is not a lot of customer base and it is cost the least while UnlPrime seems to be both popular and expensive. This shows the poplarity of each plan and see what plan is barely used and which plan we should consider cutting down if we stream line our product offerings.







Report Questions without Visualization

Question 1 - **A**
City
Seattle
Olympia

We learned that Seattle and Olympia are the two cities that we have the most customers in. Knowing this allows our marketing team to better focus their efforts on area and reduce marketing efforts in these areas in order to reduce expenses and become more efficient

Question 1 - **B**
City
Kent
Issaquah
Tacoma

Kent, Issaquah, and Tacoma are the cities that we have the least amount of customers in and we will be focusing our marketing in these new cities. Knowing this allows us to pinpoint where our marketing team should focus their efforts on. This is because our marketing team changed their strategy from trying to break into a new area and wanted to focus on places with low-existing customer base.

Question 1 - **C**
PlanName
Data2

Data2 is the plan that has the least number of customers using it. Our management team could want to utilize this marketing opportunity to get more exposure on this plan as we are marketing to Kent, Issaquah, and Tacoma.

Question 2 - **A**

Type	Number of Ce
Android	14
Apple	6

Our customers are using two types of phones: Android and Apple phones. There are 14 Android uses and 6 Apple users. As we decide to buy newer phones for our company, we could utilize this information to divide the budget and quantity of each type of phone to purchase.

Question 2 - **B**

FirstName	LastName
Reed	Richards
Steve	Rogers
Clint	Barton
Jane	Foster
Bucky	Barnes
Nathan	Summers

Based on the query from 2-A, we see that Apple devices is the phone type that is least used by our cusomters. These are the first and last names of people using Apple phones. We can use this information to send promotional materials relating to Apple phones to their family members. Knowing that one of their family members are already using Apple phones, we hope they realize how good Apple phones are and hope they would switch to use our services and purchase an Apple phone like their family members.

Question 2 - **C**

FirstName	LastName	YearReleased
Ben	Grimm	2014
Jane	Foster	2017
Bruce	Banner	2016
Matt	Murdock	2017
Natasha	Romanova	2015
Bucky	Barnes	2017
Jessica	Jones	2017
Wade	Wilson	2017
Nathan	Summers	2017

This is a list of our current customers who have phones released before 2018. As their phones are quite old and could be slowing down, we will send them promotional materials on our new phones in order to intice them into upgrading to a faster and newer phone. We should focus our marketing, espcially to Ben Grimms as his phone is the oldest and could be barely running by giving him a discount on his new upgrade.

Question 3 - **A**

City	Total Data Us
Olympia	84226
Bellevue	64695
Seattle	53714

Question 3 - **B**

City	Total Data Us
Bellevue	64695
Olympia	35003
Seattle	31308

Using Query 3-A, we were able to identify which 3 cities uses the most data out of all the cities we are servicing, which are Olympia, Bellevue, and Seattle, as well as the total data used in each city regardless of thier plans. We used Query 3-B to identify which 3 cities that uses the most data, but only counting the plans that are not unlimited. We found that Bellevue, Olympia, and Seattle were still in the top 3, but Bellevue's total data usage did not change, but the other two did. This meant that none of our Bellevue customers subscribed to our unlimited plan, while the other two did. As such, we were able to identify that Bellevue is a city that uses a lot of data, but none of our customers in that city are using the Unlimted Plan. We could increase our promotional efforts in Bellevue as our customers there do not have our unlimited plan, but use a lot of data. This could be interesting to them as since they use a lot of data, they could be running out of data often and our unlimited data plan could be thier solution.

Question 4 - **A**

FirstName	LastName
Frank	Castle

Frank Castle is the customer with the most expensive bill. We could use this information to provide him with an incentive from our company, such as a small discount or a gift of gratitude like our company merchandise to make him feel appreciated and stay with us longer.

Question 4 - **B**

PlanName
UnlPrime

The UnlPrime plan is the plan that delivers the highest to bill for our company. As such, we should market this plan to areas that has high data usage and areas with lots of customers using non-unlimited plans. Moreover, company management could be interested in investing in the improvement of this plan which can improve profit for this plan.

Question 5 - **A**

Area Code	Total Minutes
360	1822

The area code, 360, has the most total minutes of 1822 minutes in total. With this, we could assume that since people in this area code uses their phone for calls a lot, we can say they could be in an older generation. This means that they will use less data or internet. We should utlize this and market them our cheapest plan which can entise them with low prices and still provide them with what they will need.

Question 5 - **B**

City
Seattle
Spokane

This query tells us that Seattle and Spokane are cities in which there is a high difference between its low minutes (less than 200 minutes) and high minutes (more than 700 minutes). Knowing this, we are aware there the age distribuition of this area could be very varied. As such, the needs of these cities can be very different and we cannot use one marketing strategy for all of our customers in those two areas. As such, we can conduct further research on which marketing strategy we should be using to best capture the attention from people from those areas due to these differences.