

The background features a stylized illustration of an industrial landscape. On the left, there's a cluster of buildings, including a tall skyscraper and several smaller structures, all in shades of brown and tan. Two prominent orange cylindrical pipes rise from the ground; the taller one on the left has a dark brown plume of smoke billowing from its top, while the shorter one has a smaller, lighter brown plume. On the right side of the image, there's another similar industrial complex with two tall pipes, one orange and one brown, both emitting dark brown smoke. The sky is a light beige color, and there are some abstract, wavy shapes in the upper right corner.

Analysis Air Quality

Data visualization Project

TEAM WORK

- Joud Abdullah Aljehani
- Raghad Al-jadaani
- Muntaha Ali Aldhahri
- Khlood Alamoudi



INTRODUCTION



The dataset comprises air quality information from outdoor monitors across the USA , offering a detailed view of ozone concentration variations in different U.S. regions. It serves as a valuable resource for comprehending and examining environmental conditions and ozone level trends.

QUESTIONS

- Which city has the highest average AQI values?
- How many AQI are outliers?
- what is the relation between AQI and ozone level?
- What is the ozone levels compared between different State?



OUR DATA

Data Analytics

daily_ozone_2020 (1)

Search

Tables

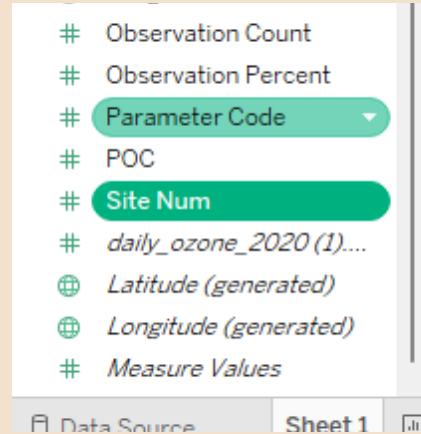
- Abc Address
- ⊕ CBSA Name
- ⊕ City Name
- # County Code
- ⊕ County Name
- ⊕ Date Local
- ⊕ Date of Last Change
- Abc Datum
- Abc Event Type
- Abc Local Site Name
- Abc Method Code
- Abc Method Name
- # Parameter Code
- Abc Parameter Name
- Abc Pollutant Standard
- Abc Sample Duration
- # Site Num
- # State Code
- ⊕ State Name
- Abc Units of Measure
- Abc Measure Names
- # 1st Max Hour

Data Source Sheet 1

- # 1st Max Hour
- # 1st Max Value
- # AQI
- # Arithmetic Mean
- ⊕ Latitude
- ⊕ Longitude
- # Observation Count
- # Observation Percent
- # POC
- # *daily_ozone_2020 (1)...*
- ⊕ *Latitude (generated)*
- ⊕ *Longitude (generated)*
- # *Measure Values*

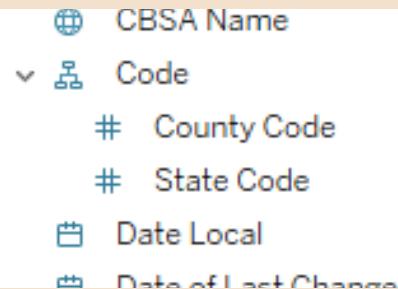


TASK 1

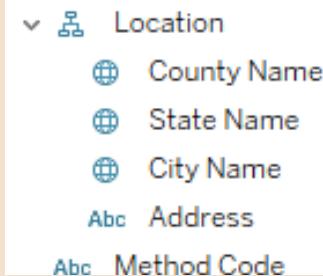


convert site num and
parameter code to
measure

TASK 1

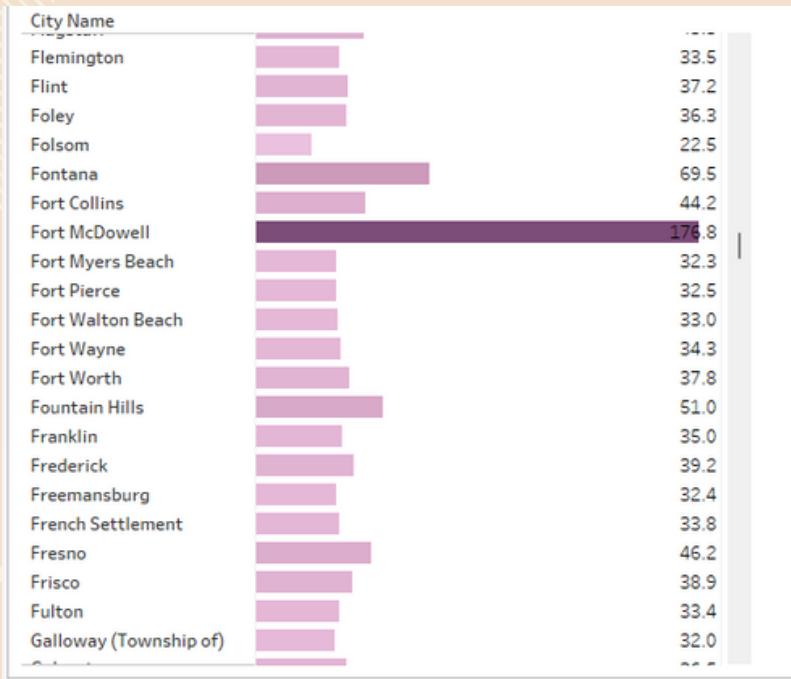


Hierarchy of Code which contain any country code and the state code



Hierarchy of Location which contain country Name ,State Name, City Name and address

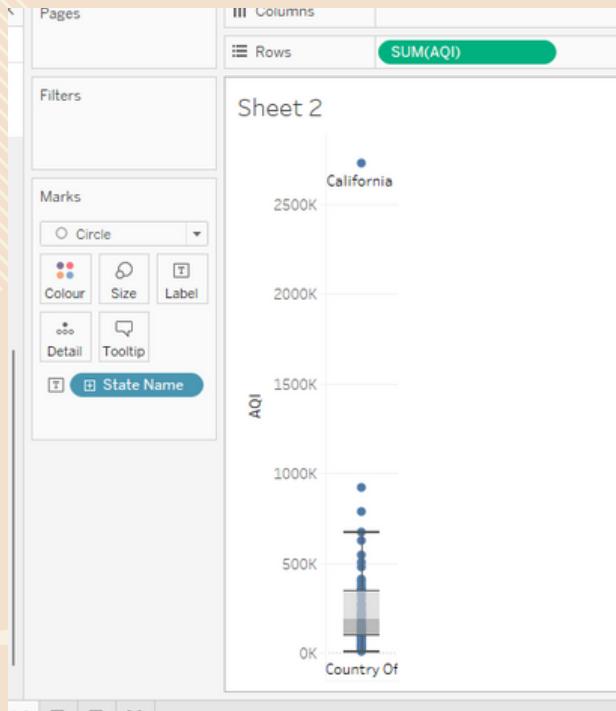
TASK 2- part 1



Which city has the highest average AQI values?

- City Name (categorical)
- We noticed that Fort McDowell Has the highest AQI with 179.8

TASK 2- part 1

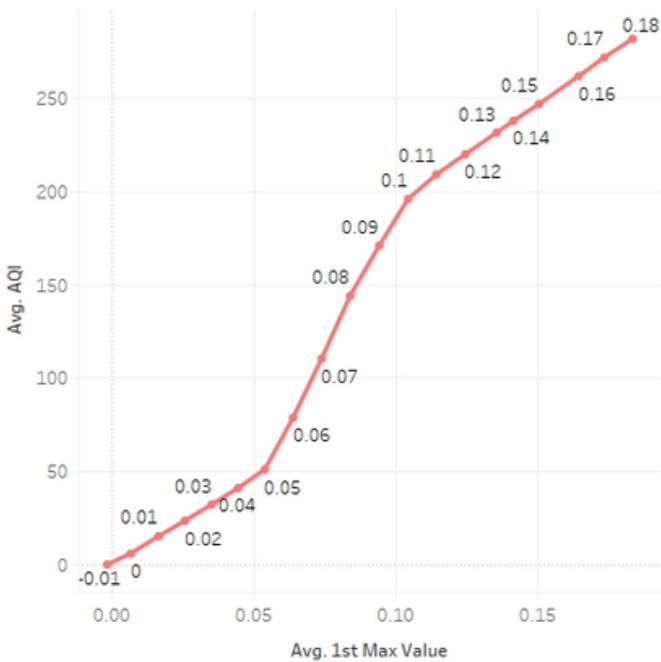


How many AQI are outliers?

- **AQI (Continuous)**
We noticed that there 3 outliers in
this state TEXAS, CALIFORNIA
CALIFORNIA.ARIZONA

TASK 2- part 2

Sheet 3

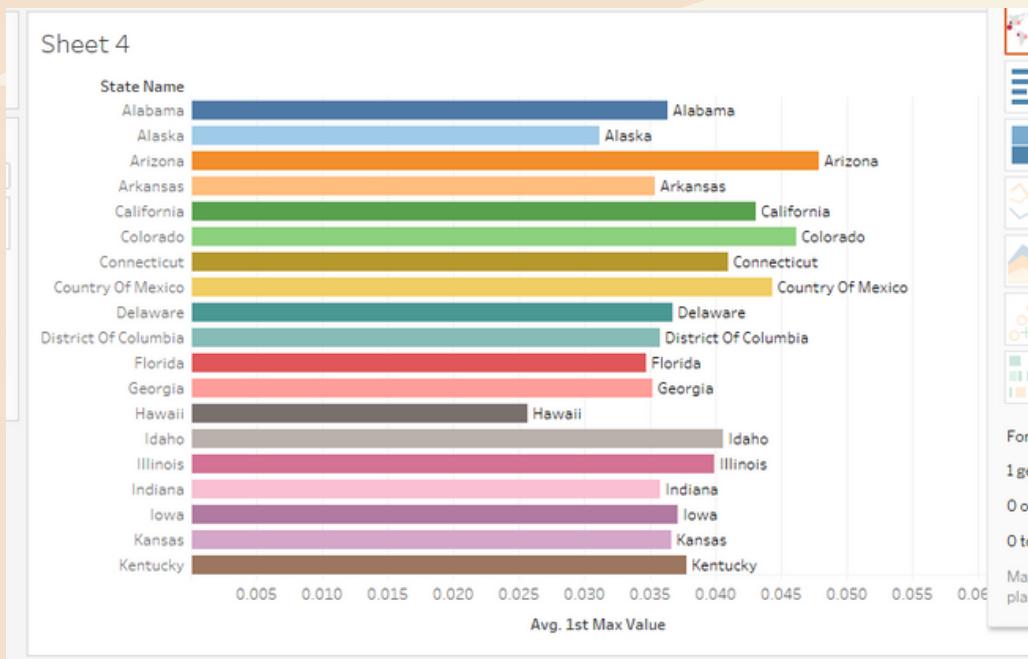


**what is the relation
between AQI and
ozone level?**

- **AQI (Continuous)**
- **1 st Max value (continuous)**

We noticed that there is a relation ,if ozone level increases then AQI increased

TASK 2- part 3

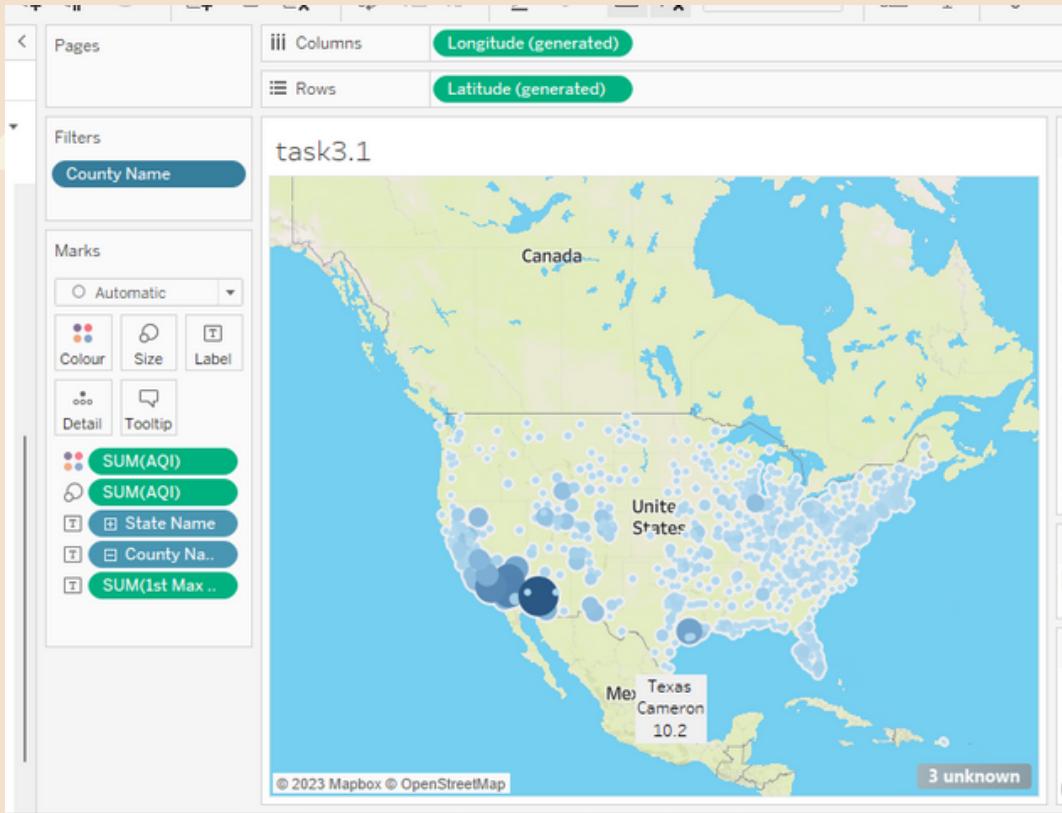


What is the ozone levels compared between different State?

- **State Name (Categorical)**
- **1 st Max value (continuous)**

We have noticed that there are differences in ozone levels among state

TASK 3



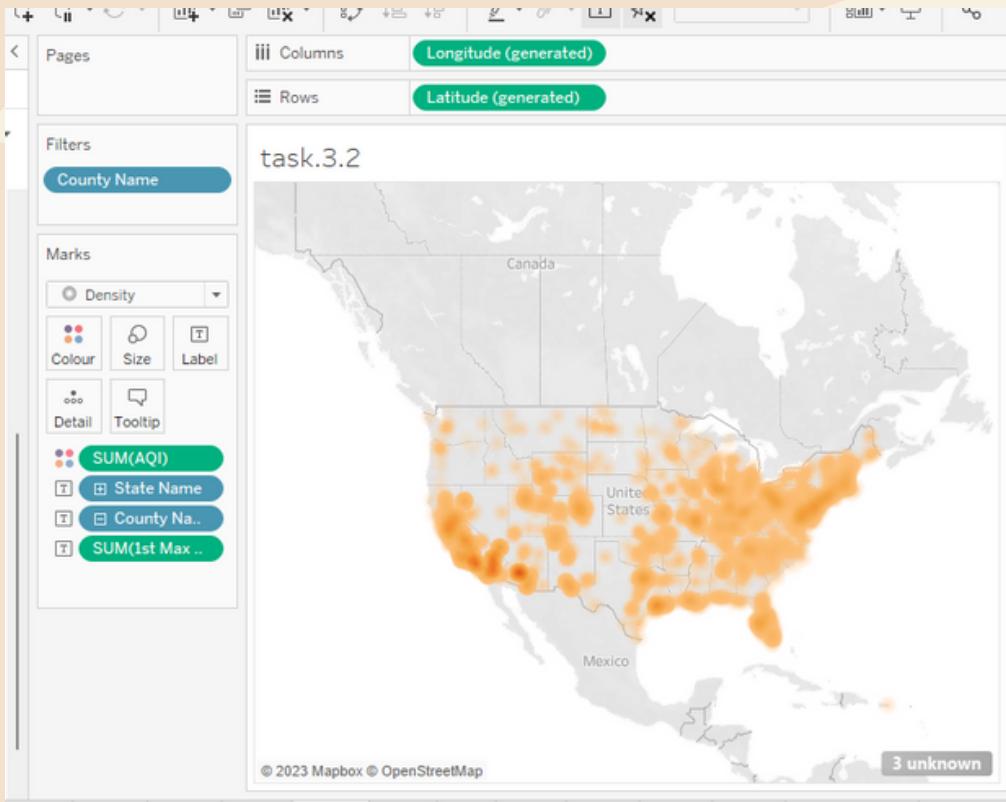
Analyze sum of AQI by country name

using point maps with outdoors background

using different size and color

The map shows us the name of the country and state

TASK 3



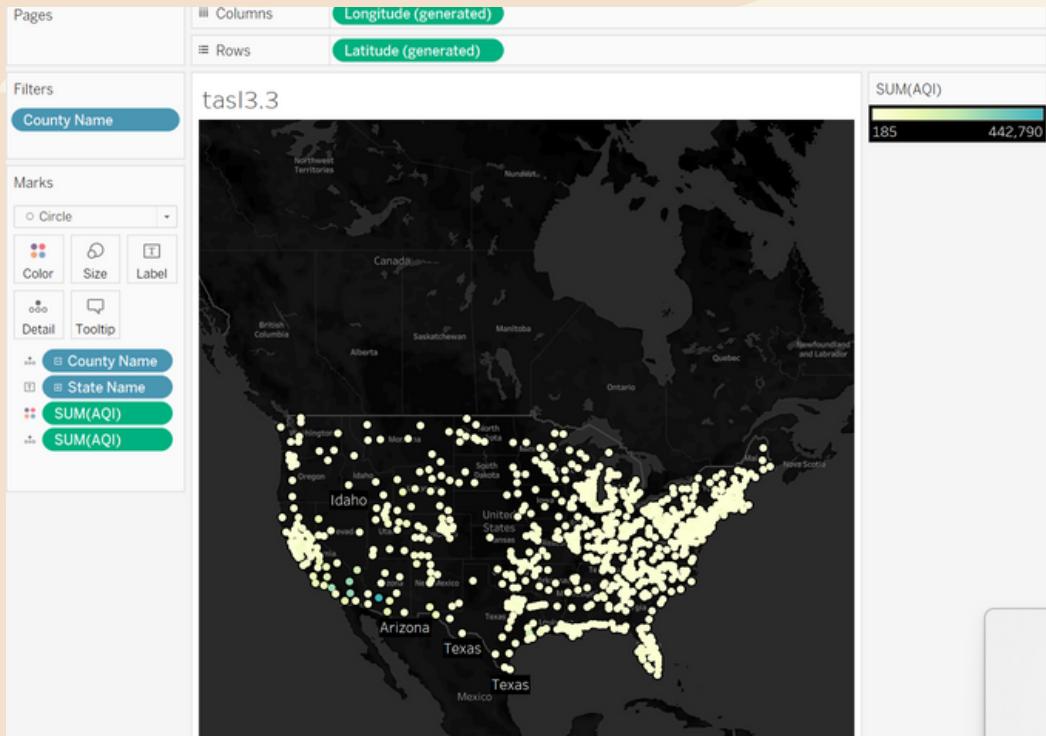
Analyze sum AQI by country name

using Density maps with light background

using different size and color

The map shows us the name of the state

TASK 3



Analyze sum AQI by country name

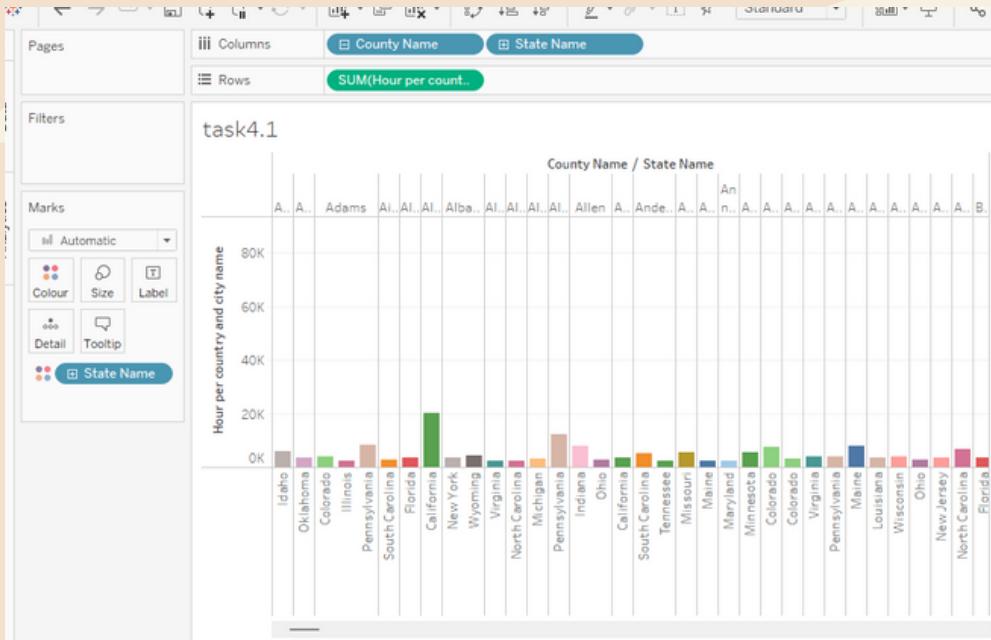
using dark Background maps Layers
using different size and color
showing streets and country name
,state name

TASK 3-part 2

We used four visual attributes in these visualizations
which is :

1. Country Name
2. State Name
3. AQI
4. 1st Max Value

TASK 4-part 1

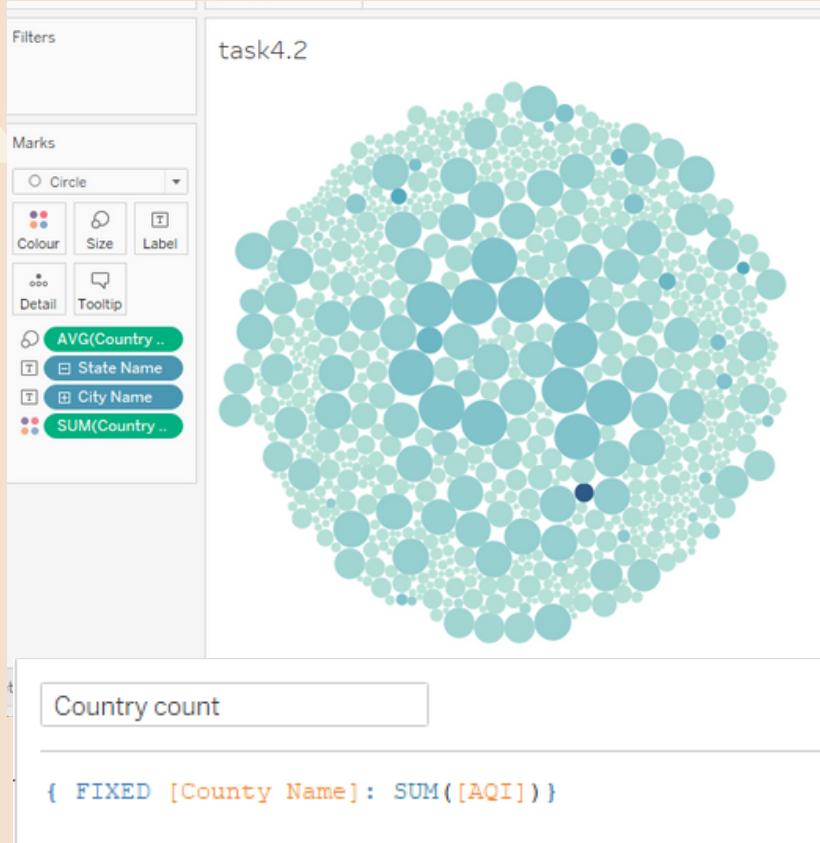


we create include LOD expression
to compute the sum of 1st Max
Hour per City name and per
Country name

me
dar
ion
ure

```
Hour per country and city name
{ INCLUDE [County Name], [City Name]:SUM([1st Max Hour]) }
```

TASK 4-part 2



circle plot

The bigger the circle , the higher
the count

TASK 4 -part 3

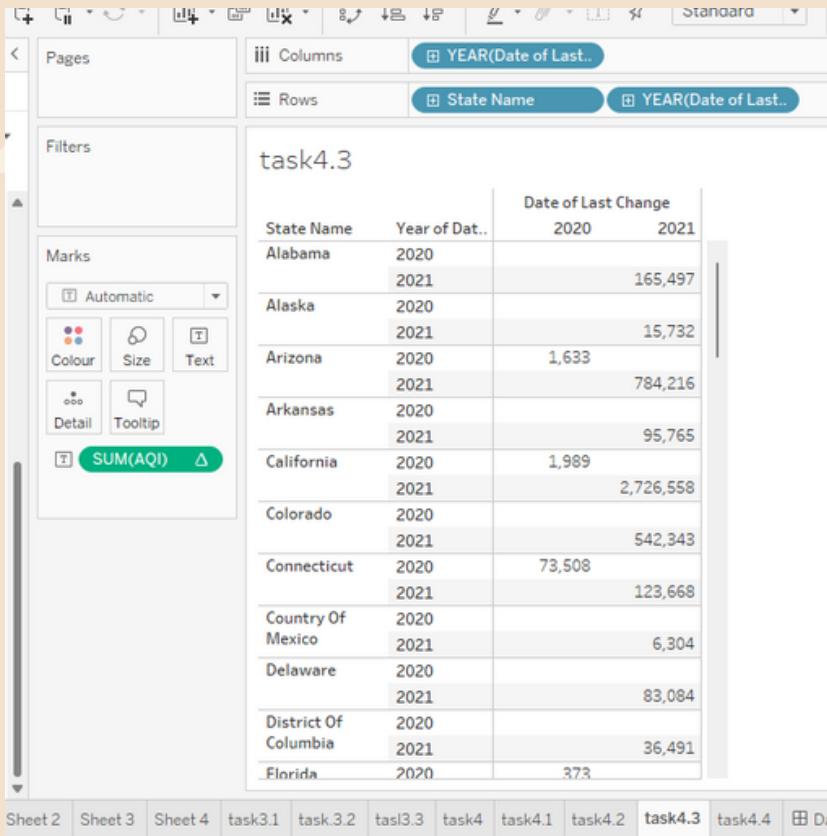


table calcultion

TASK 4 -part 4

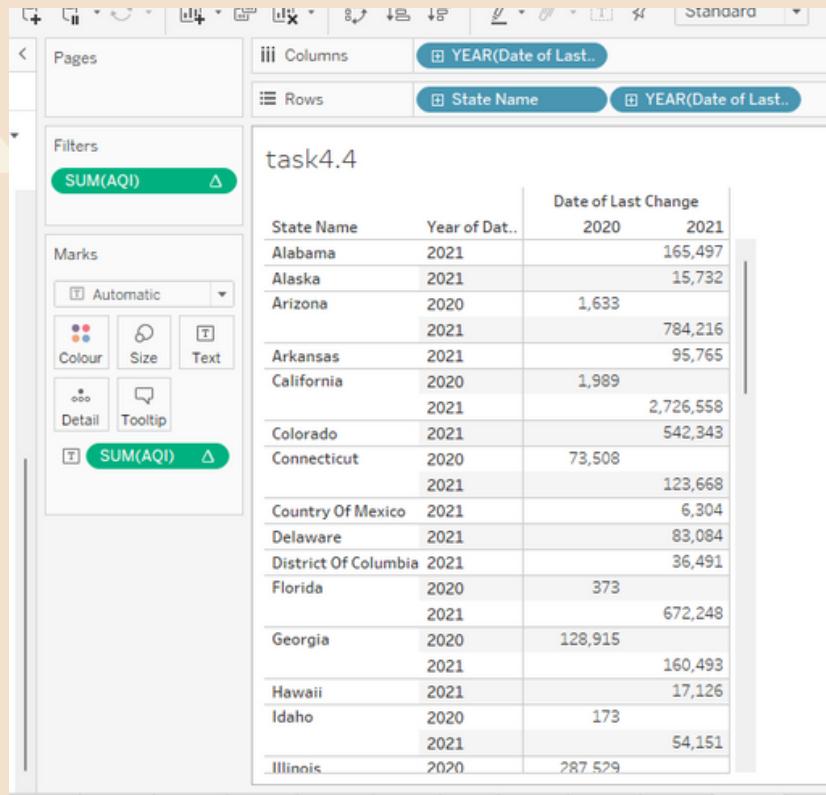
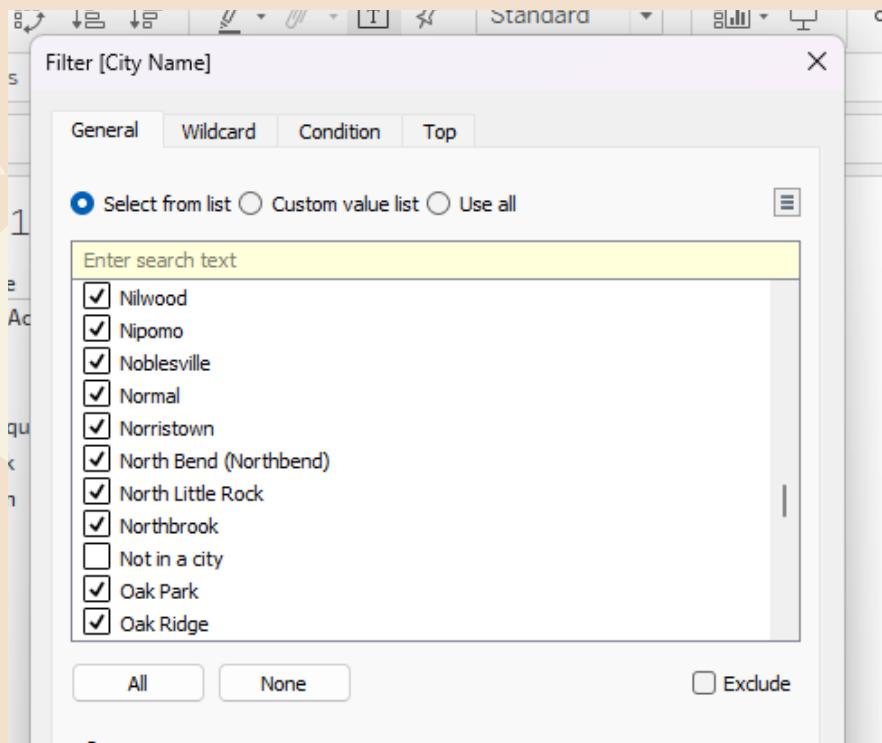


table calculation
with filter

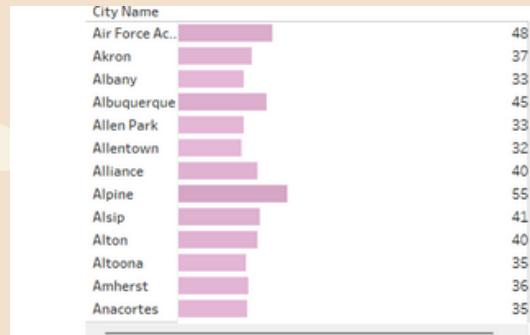
TASK 4 -part 4



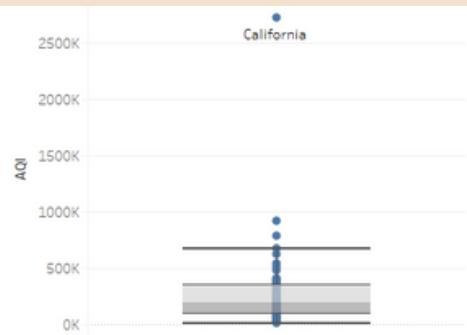
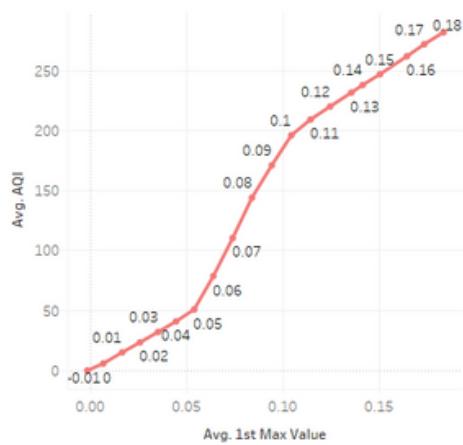
Other filter that been used

we used filter in city name to exclude 'Not a city'

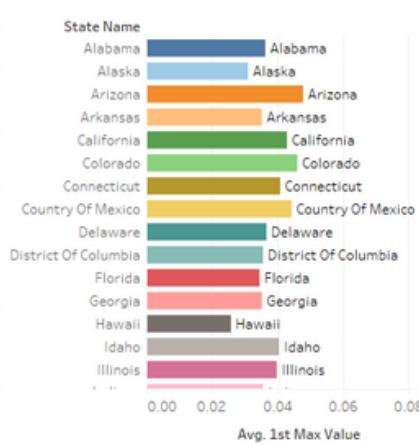
TASK 4-part 5



Sheet 3



Sheet 4



Dashboard for task2

TASK 4-part 5

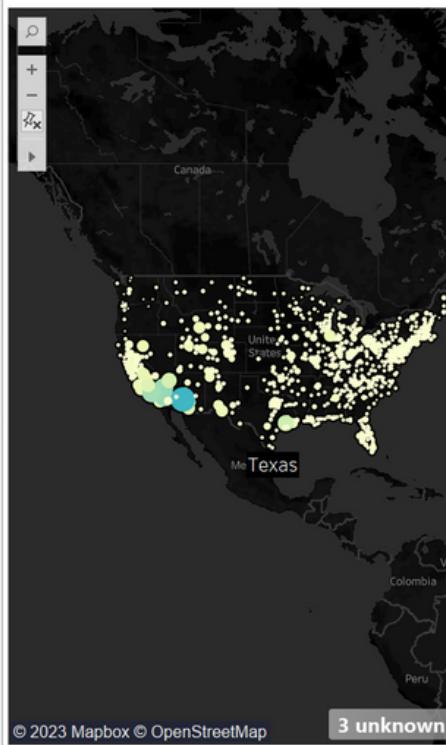
task.3.2



task3.1



tasl3.3



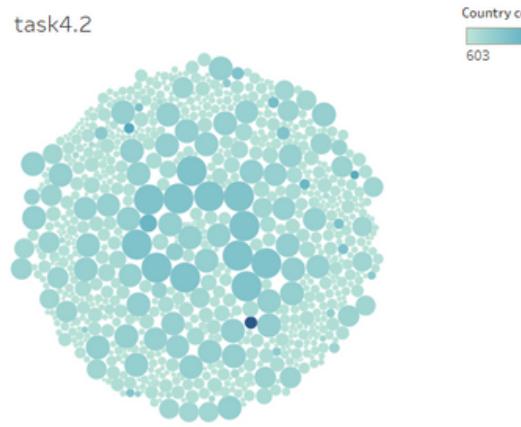
Dashboard for task3

TASK 4-part 5

task4.3

State Name	Year of Dat..	Date of Last Change	
		2020	2021
Alabama	2020		
	2021		165,497
Alaska	2020		
	2021		15,732
Arizona	2020	1,633	
	2021		784,216
Arkansas	2020		
	2021		95,765
California	2020	1,989	
	2021		2,726,558
Colorado	2020		
	2021		542,343
Connecticut	2020	73,508	
	2021		123,668
Country Of	2020		

task4.2



Country co
603

Dashboard for task4

task4.4

State Name	Year of Dat..	Date of Last Change	
		2020	2021
Alabama	2021		165,497
	2021		15,732
Arizona	2020	1,633	
	2021		784,216
Arkansas	2021		95,765
California	2020	1,989	
	2021		2,726,558
Colorado	2021		542,343
Connecticut	2020	73,508	
	2021		123,668
Country Of Mexico	2021		6,304
Delaware	2021		83,084
District Of Columbia	2021		26,491

THANK YOU FOR
YOUR TIME

