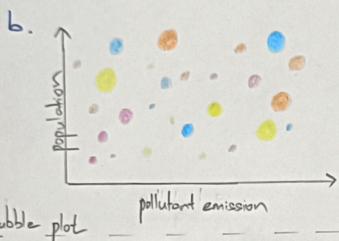
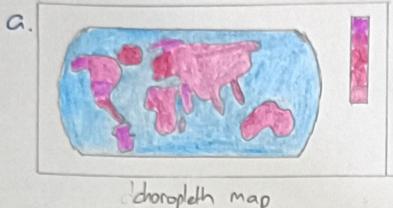


# IDEAS

## ① Overall

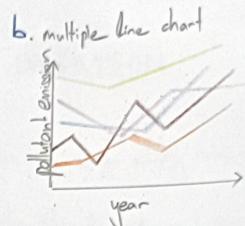
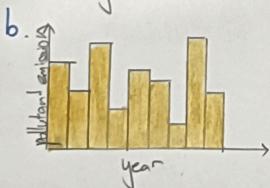
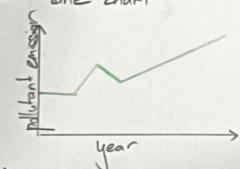


## ② By continents

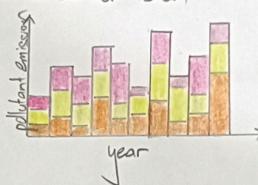
### a. pie chart

## ③ By country

### a. line chart



### c. stacked bar chart



## CATEGORIZE

Pollutant Emissions → Overall

By pollutants ↓ → By continents  
By continents ↓ → By country

Overall: choropleth map

By continent: pie chart

By country: line chart

## FILTER

### 1a.

Map can have a good visualization of overall total then bubble plot

### 2c.

Stacked bar chart not only can know the total value also can know specific continents value

3a and 3b can combine become dual axis chart to show the trend and value together

3a and 3c can use together. pie chart show the percentage and stacked bar chart show the value

## COMBINE &

## REFINE

## QUESTION

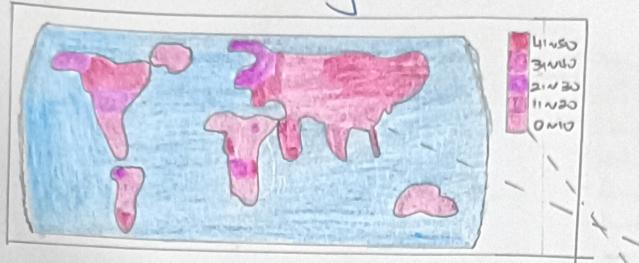
① is that the data have to normalize?

② is that the data size is too large

③ will that the bubble on bubble plot too close.

Wong Jing Xien  
23495246  
Sheet 1

# Title: Pollutant Emissions among the World



Author: Wong Jing Xuen

Date: 11/10/2024

Sheet: 2

Task: FIT 3179 Data Visualization 2

## OPERATION



Markdown some country name

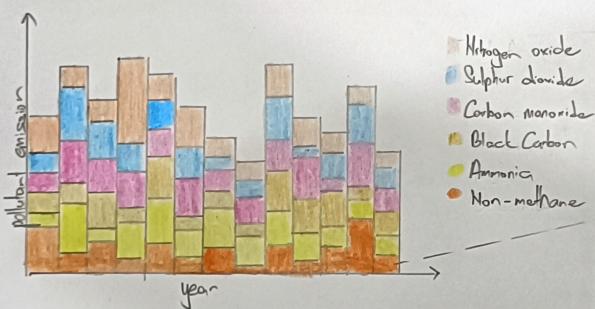
Colour show the categorical range of value

color represent different continent

tooltip to show the additional information

each bubble represent different country

colour differentiate different pollutants



## DISCUSSION

### Advantage:

- using map to have overall visualise of entire data
- stack bar chart show the total value and also the value of different pollutant

### Disadvantage:

- For the scatter plot if the data of each country is too similar, the point will locate closely so hard to visualise.

## FOCUS

Focus on the choropleth map which show the value of different pollutant using the colour saturation. The map also show the primary and overall visualization for showing the value of pollutant emissions on different country

Key Feature: colour to show the value  
map show different country

# Title: Pollutant Emissions among the World

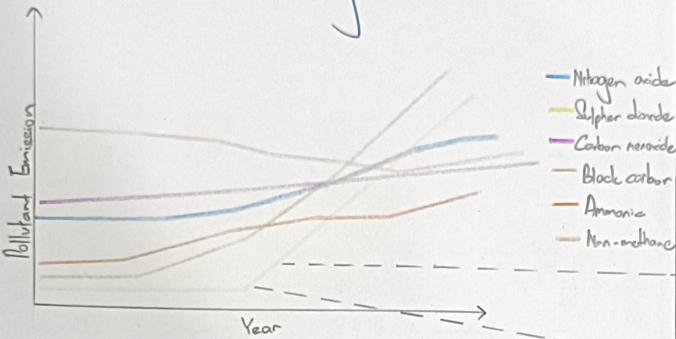
Author: Wang Jing Yuen

Date: 11/10/2024

Sheet: 3

Task: FIT 3179 Data Visualization 2

## OPERATION



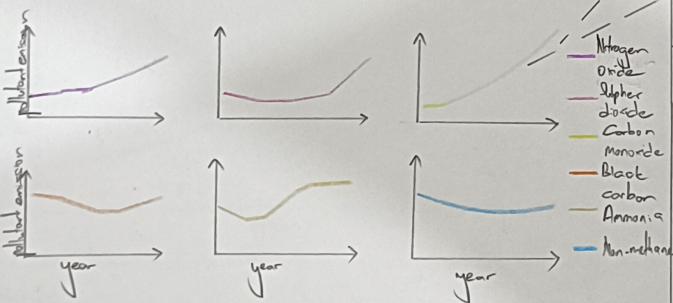
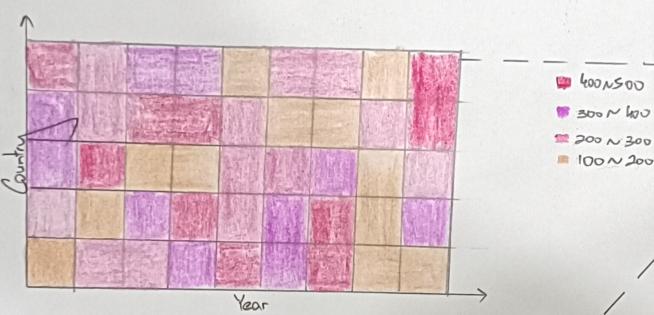
colour represent different pollutant

- adding tooltip to show the information

colour represent the range of value

different line chart show different pollutant

tooltip to show additional information



## DISCUSSION

### Advantage:

- different pollutant draw on different line chart so that can make never easy to look

### Disadvantage:

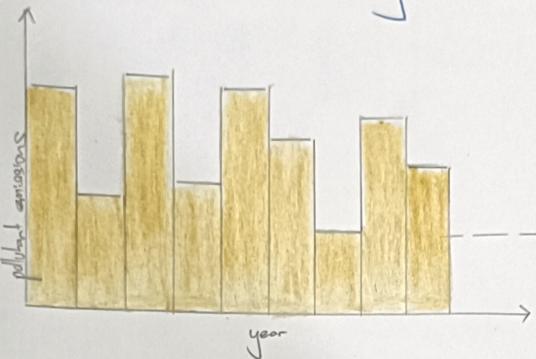
- if the value is too similar and min max is big gap, then the chart will display using same colour which is not friendly to analyse.

## FOCUS

Focu on trellis line chart which can be show the trend of different pollutant in different line chart and adding filter to filter the continent, so that the chart will not looking too complex.

Key Feature: colour to differentiate the pollutant type  
line draw the trend.

# Title: Pollutant Emissions among the World



Author: Wong Jing Xuen

Date : 11/10/2024

Sheet : 4

Task : FIT3119 Data Visualization 2

show the specific pollutants of  
specific country

colour represent different  
continents

show the percentage of  
emission from different  
continents

show the trend of pollutant  
emissions

## DISCUSSION

### Advantages :

- donut chart can make viewer have a quick look of data
- tooltip can make the user have more information about data

### Disadvantages :

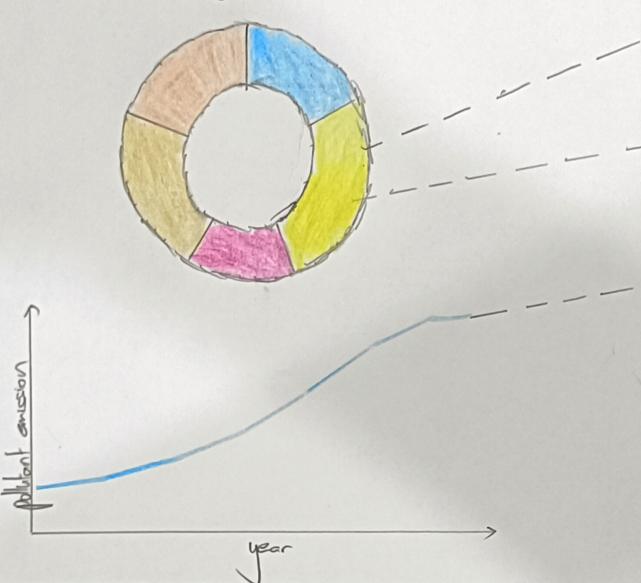
- single value display is too simple and not give more information (bar chart & line chart)

## FOCUS

Focus on the donut chart which show the portion/percentage of specific pollutant in different continents. Viewer can know which continents emissions the most pollutants in specific continents.

Key Features : colour show different continents

area show the value of pollutant emissions

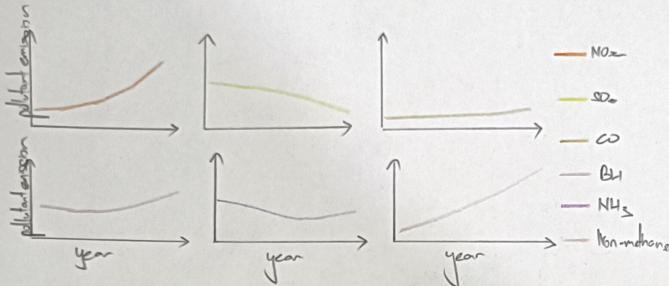


# Title: Air Pollutants Emissions among the World (1922n 2022)

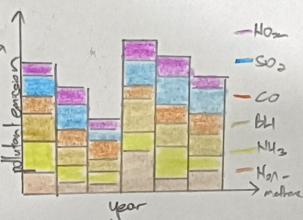


Description

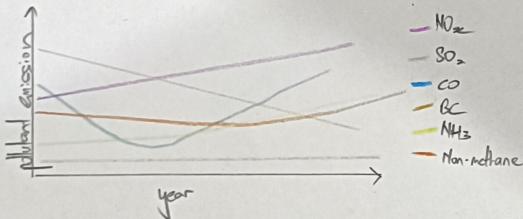
~  
~



— North America  
— South Africa  
— Europe  
— Africa  
— Asia  
— Oceania



— NO<sub>x</sub>  
— SO<sub>2</sub>  
— CO  
— CH<sub>4</sub>  
— NH<sub>3</sub>  
— Non-methane



## FOCUS

Focus on the relationship between different data such as continent and pollutant emissions, year and pollutant emissions, country and pollutant emissions.

Multiple line chart show the pollutant emission against year in Malaysia

Pie chart show the percentage of each pollutant emissions in different continents.

Author: Wong Jing Xuen

Date: 11/10/2024

Sheet: 5

Task: FIT3179 Data Visualization 2

## OPERATION

map: show the value from different country

trellis line chart: show the pollutant in individual line chart together

pie chart: show the portion and percentage of pollutant emission on different continent

stack bar chart: show the pollutant emission total value and individual value

line chart: show the trends of pollutant emissions on Malaysia

## DETAIL

using Python to do Data Wrangling  
using Vega-lite to plot the graph

use HTML and CSS to visualize the visualization

Estimated Time:

1 day for data preparation

3 day for making idions

2 day for checking

Requirement: pandas

HTML

JSON

Vega-lite