

# Food Habit Analysis

Group 20

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# Motivation and Objective

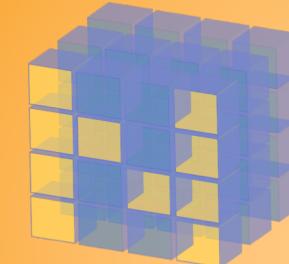
- Food helps to establish specific cultures, and has diverse influence on the ways of life of people around the world.
- Early food habits was derived strictly from what was available in the immediate environment.
- Analysis on recipes provided an interesting challenge to understand the food habit of different countries.

# Python Libraries

DATA  
COLLECTION

BeautifulSoup

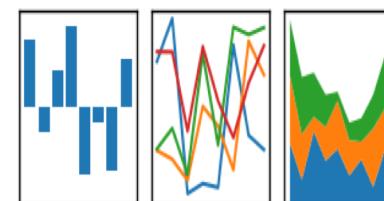
DATA  
ANALYSIS



NumPy

pandas

$$y_{it} = \beta' x_{it} + \mu_i + \epsilon_{it}$$



DATA  
VISUALIZATION

matplotlib



Bokeh

# Methodology

Dataset

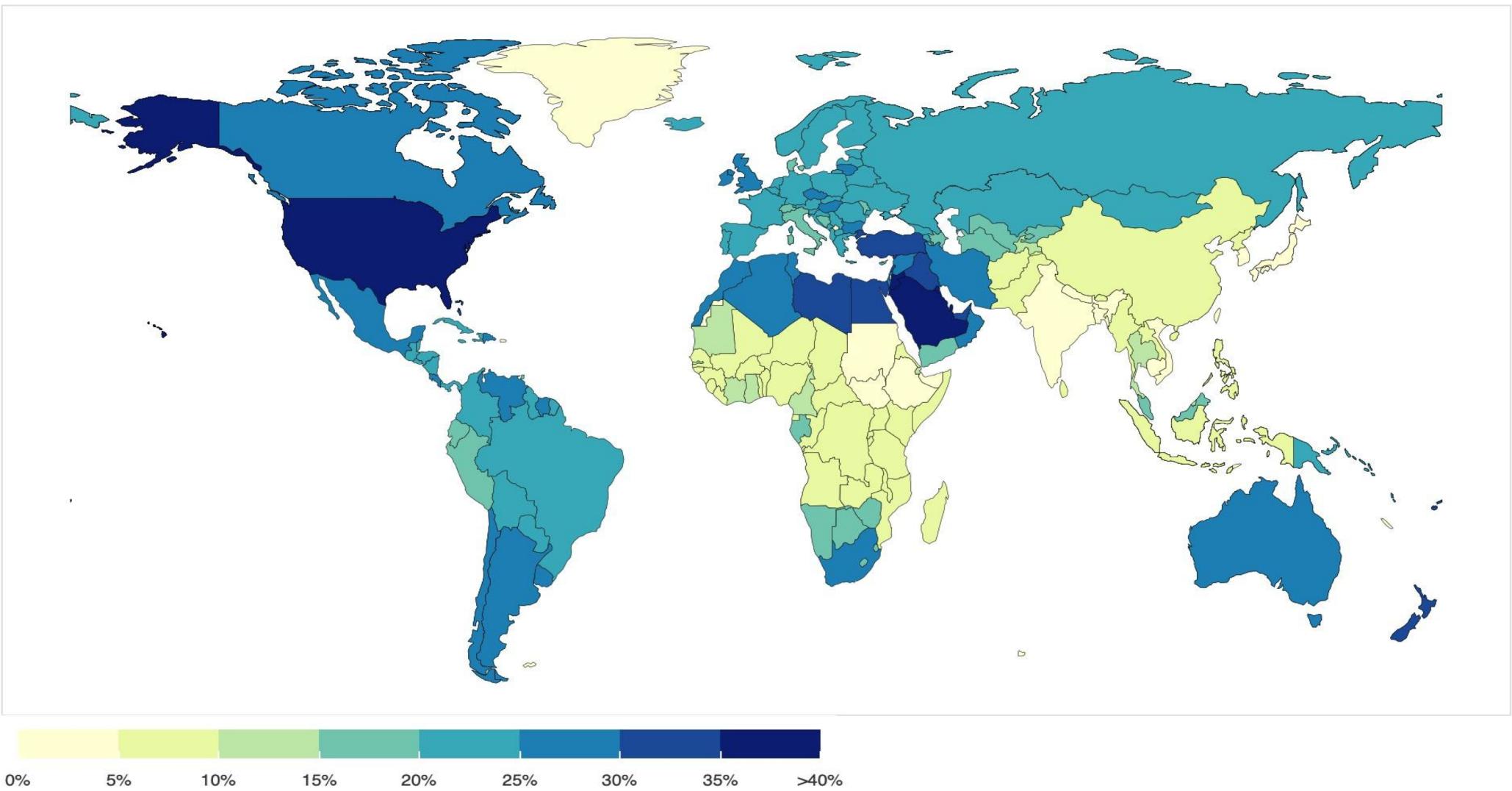
Scraping

Pre-Processing

- Allrecipes.com
  - 10 countries
  - 15 features
- Obesity Rate Dataset
- Food and Agriculture Organization of the United Nations
- Crawling data from [allrecipes.com](http://allrecipes.com)
- Scrapped around 60000 recipes
- Storing the data in pickle format.
- Using pandas to process the pickle and CSV file.
- Using NLTK library to lemmatize the ingredients.

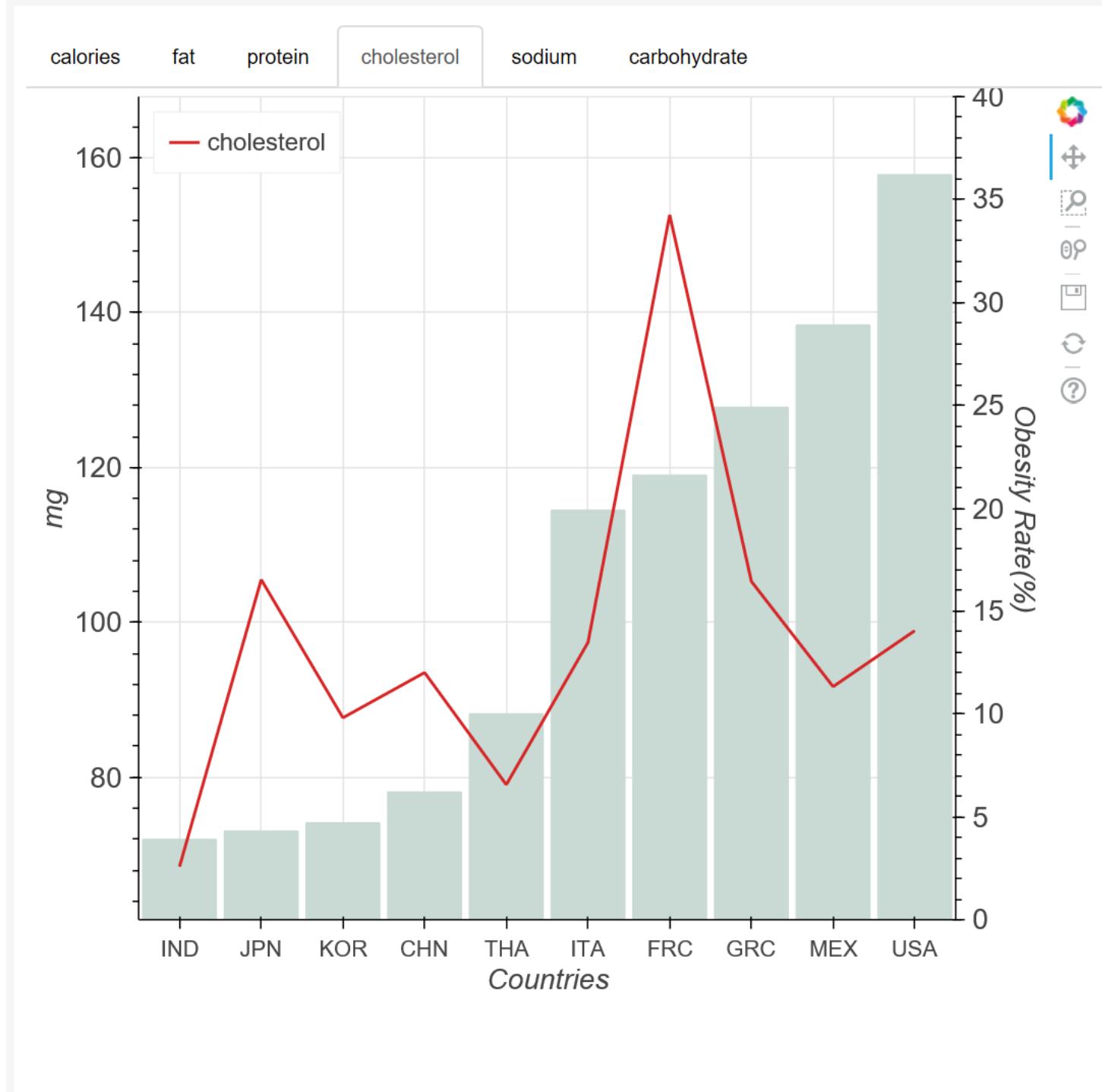
# Obesity Rate

**Share of adults who are obese**



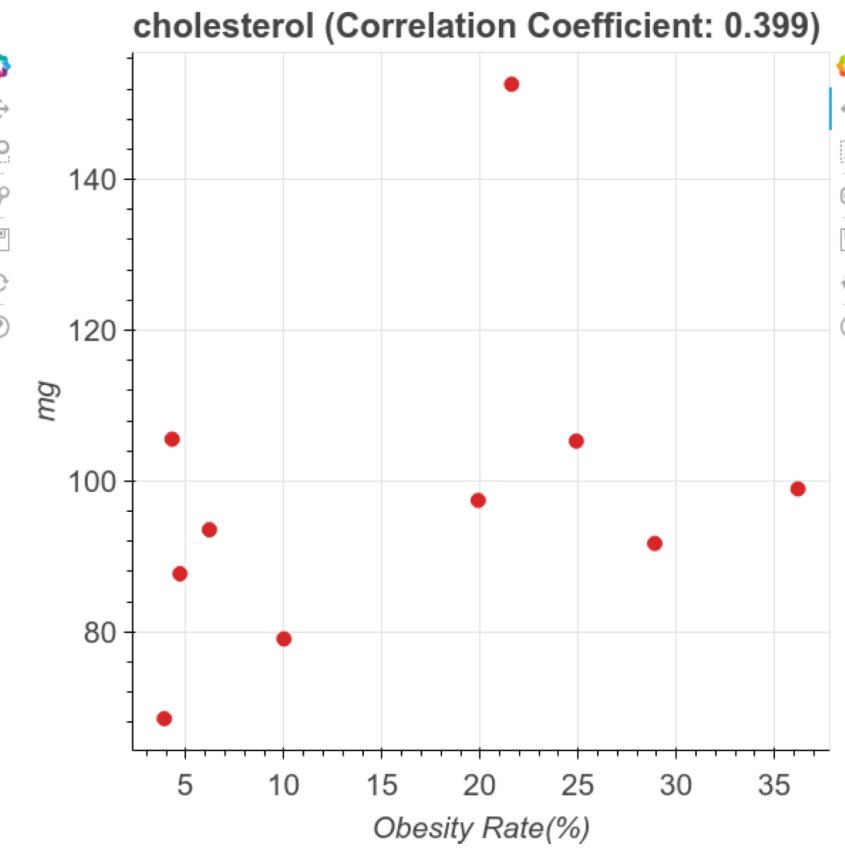
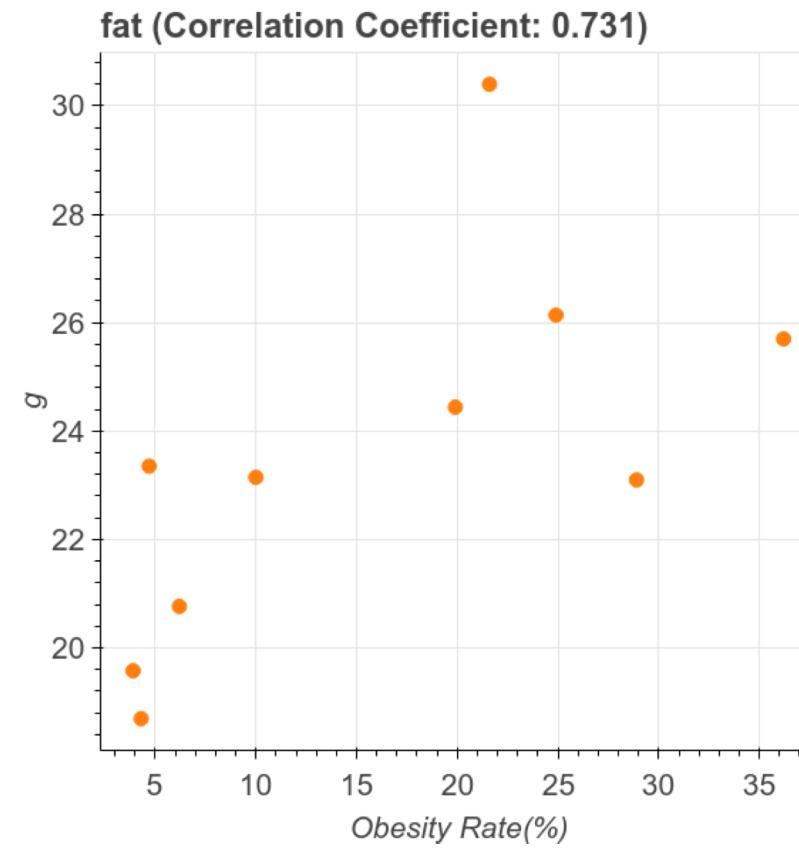
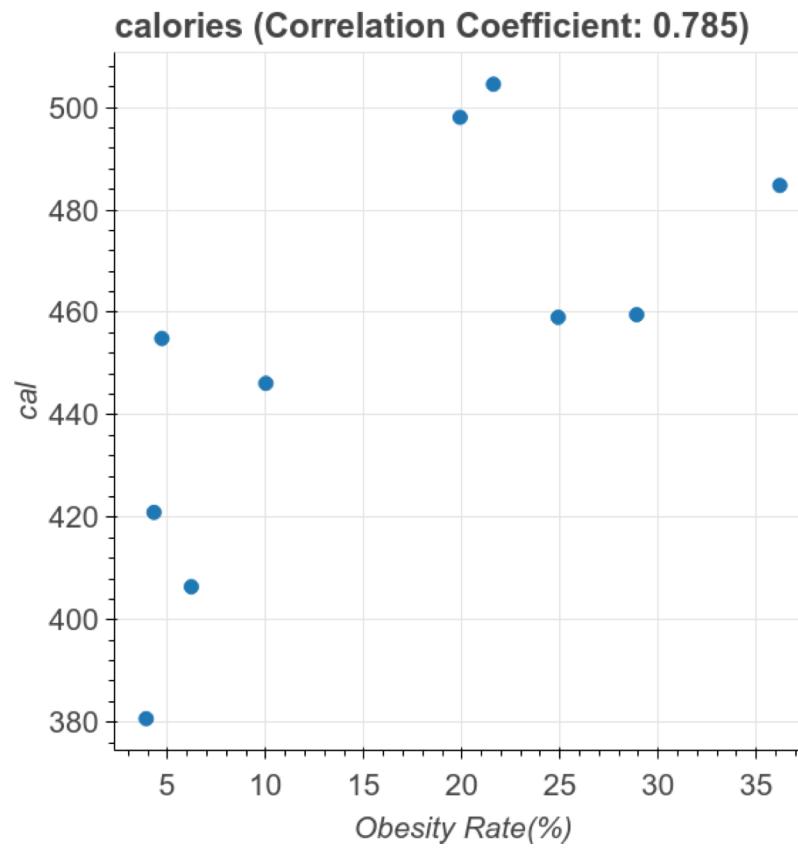
# Nutrition Facts v/s Obesity Rate

- 6 nutrition facts:
  - Calories
  - Fat
  - Protein
  - Cholesterol
  - Sodium
  - Carbohydrate



# Nutrition Facts v/s Obesity Rate

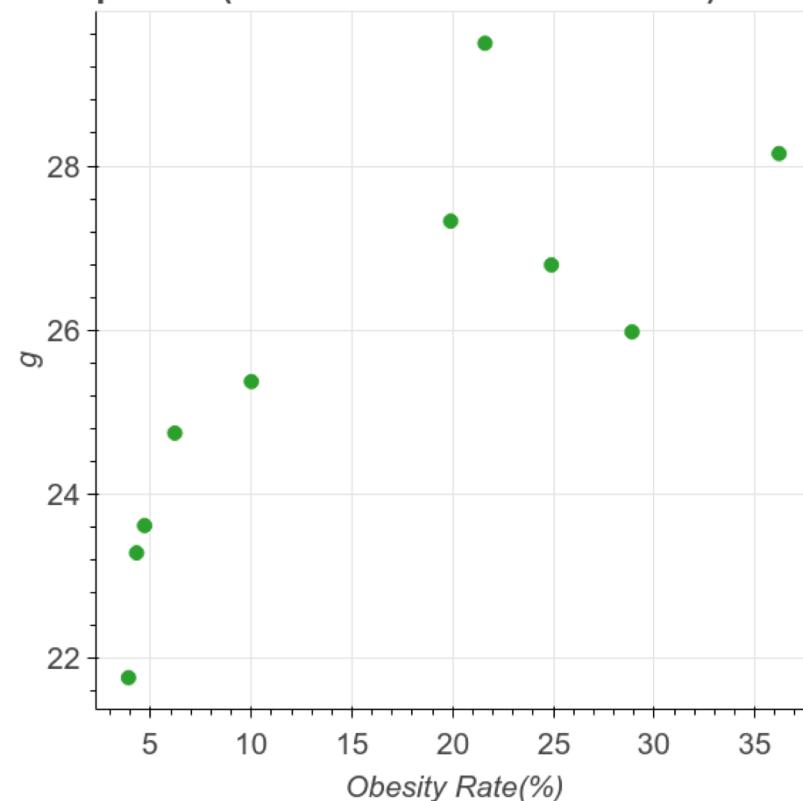
- Correlation Coefficient: [-1, 1]



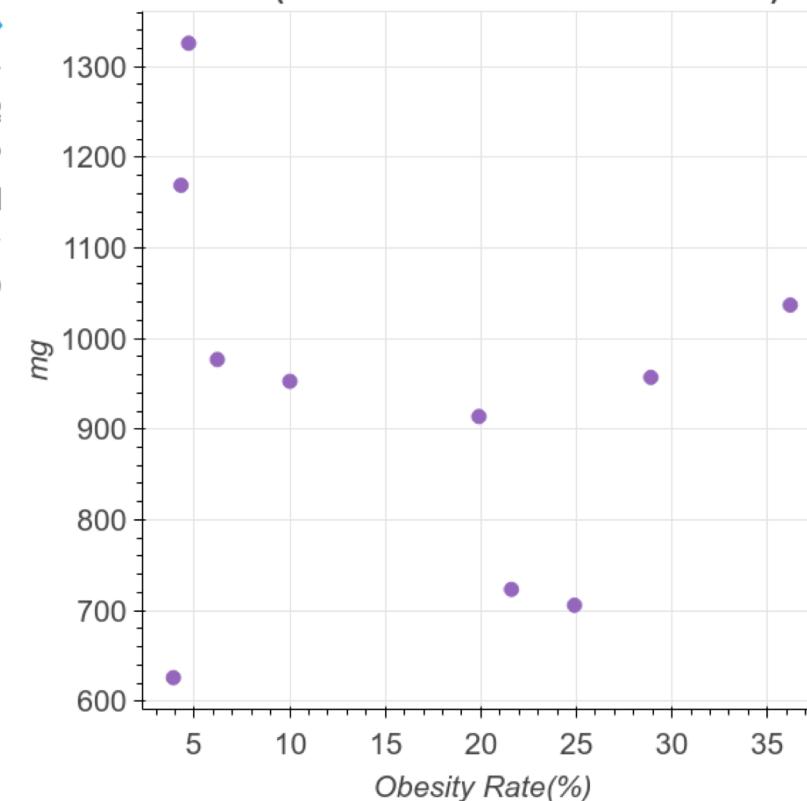
# Nutrition Facts v/s Obesity Rate

- Correlation Coefficient: [-1, 1]

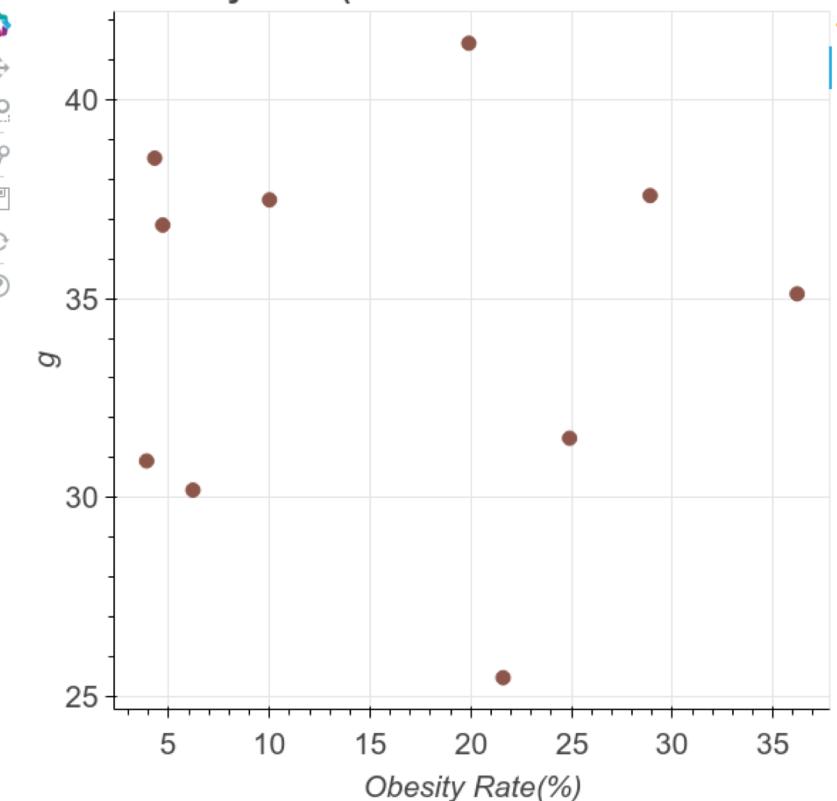
protein (Correlation Coefficient: 0.888)



sodium (Correlation Coefficient: -0.240)

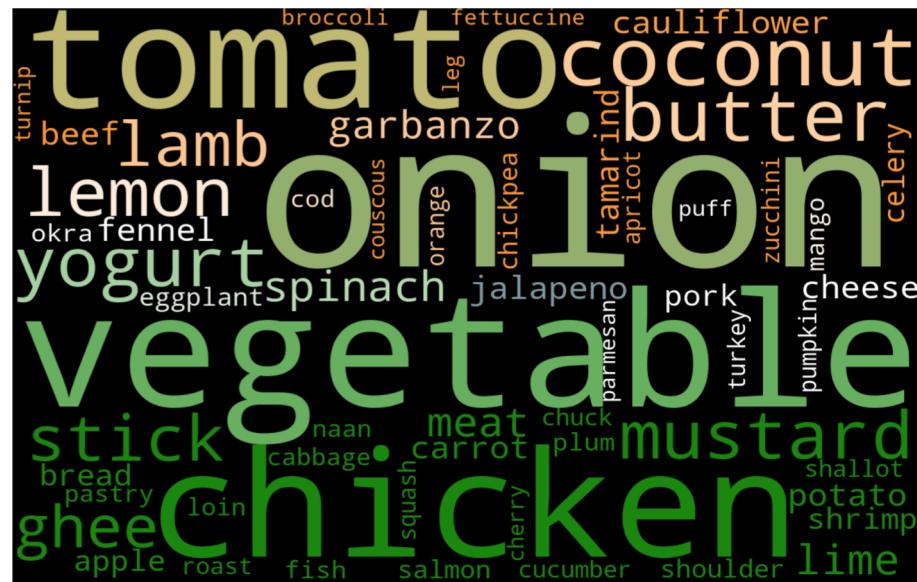


carbohydrate (Correlation Coefficient: -0.009)

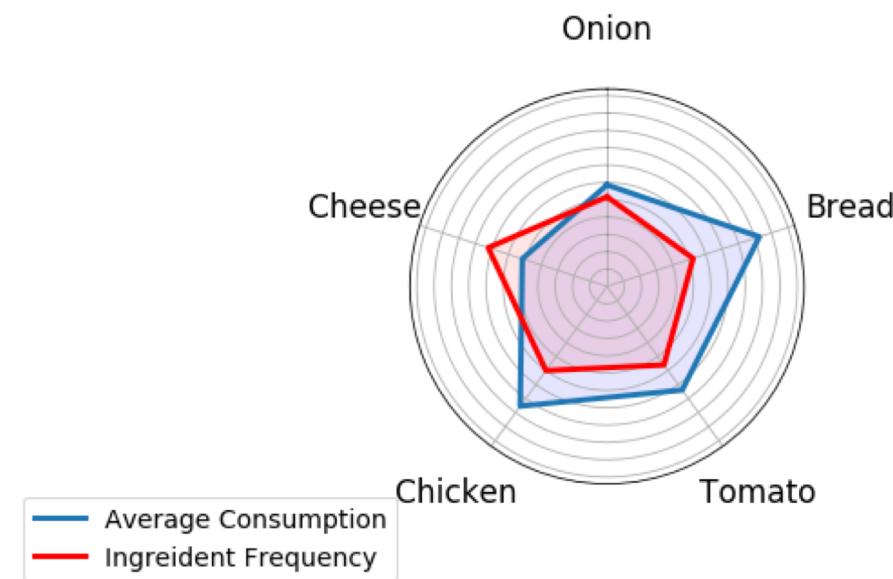
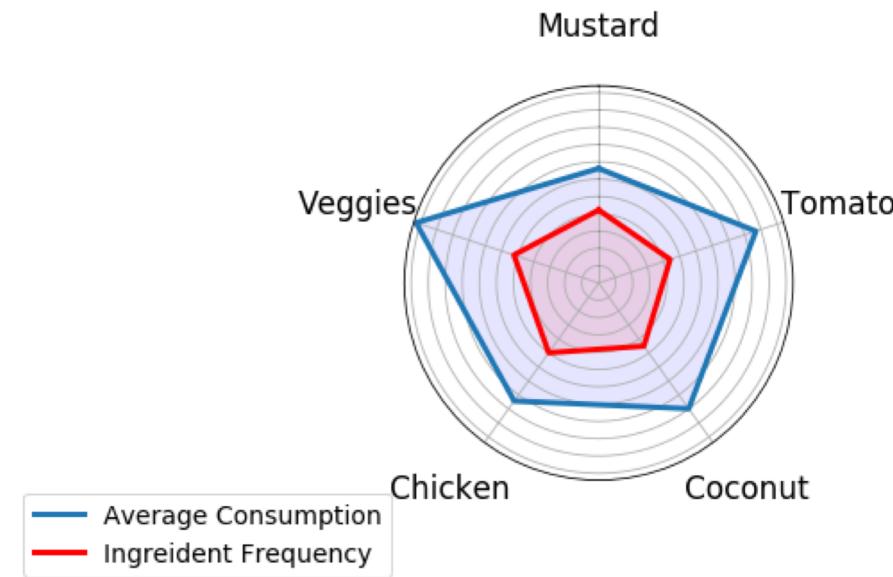
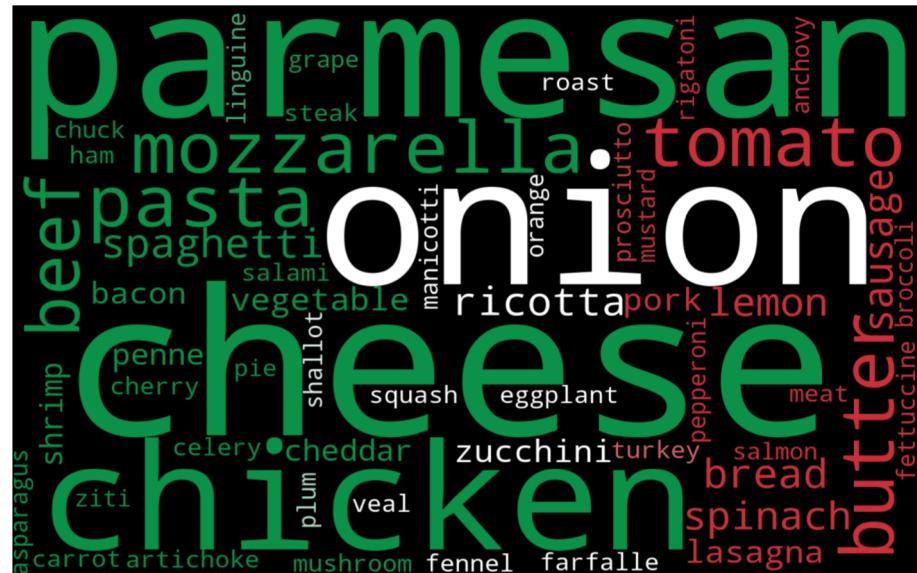


# Ingredient frequency v/s Product Consumption

# India

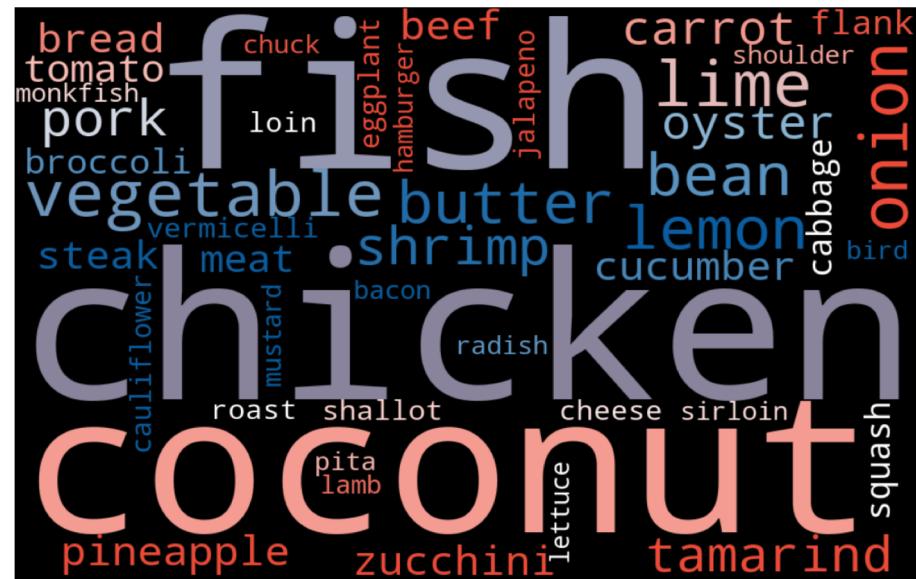


# Italy

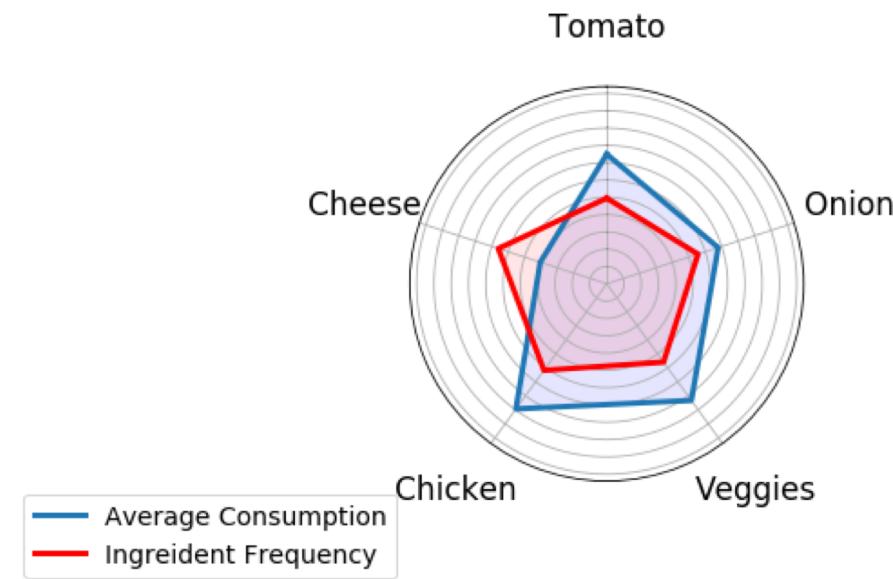
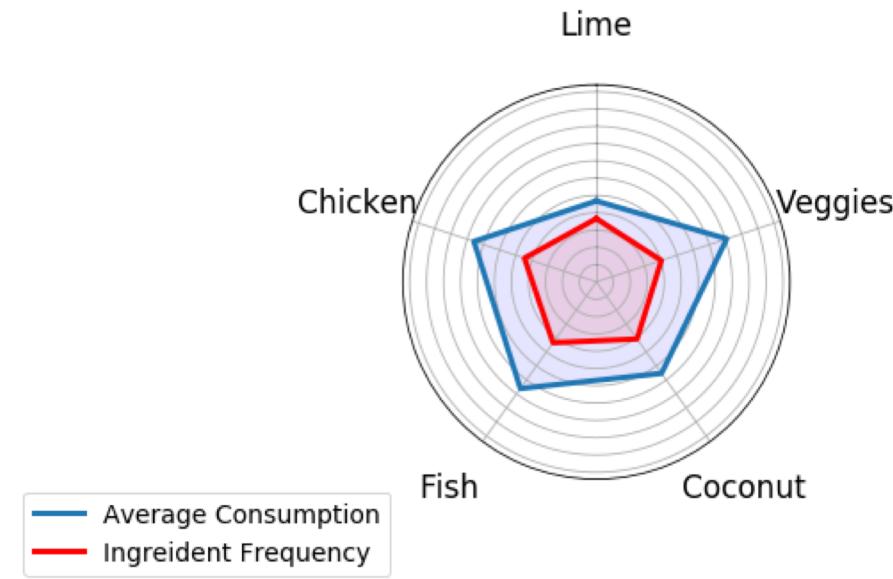
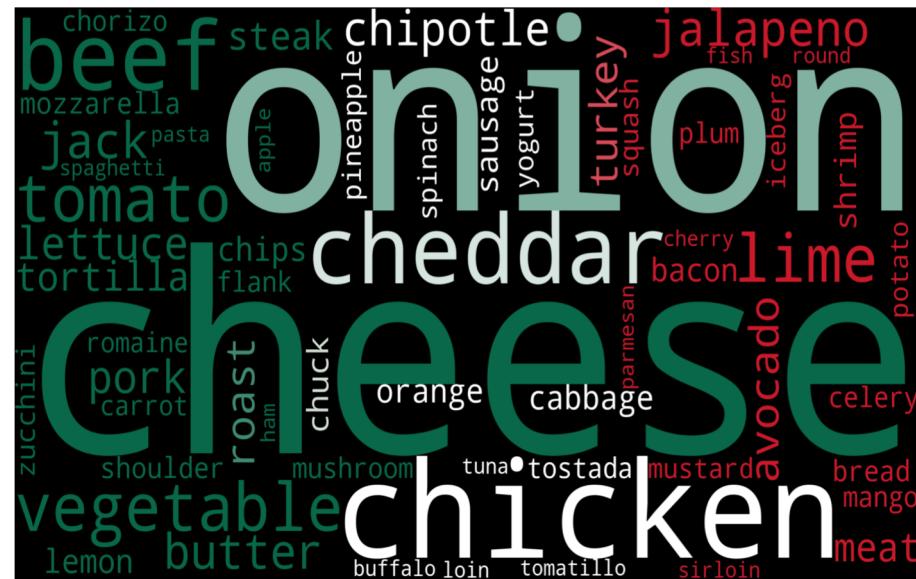


# Ingredient frequency v/s Product Consumption

Thailand

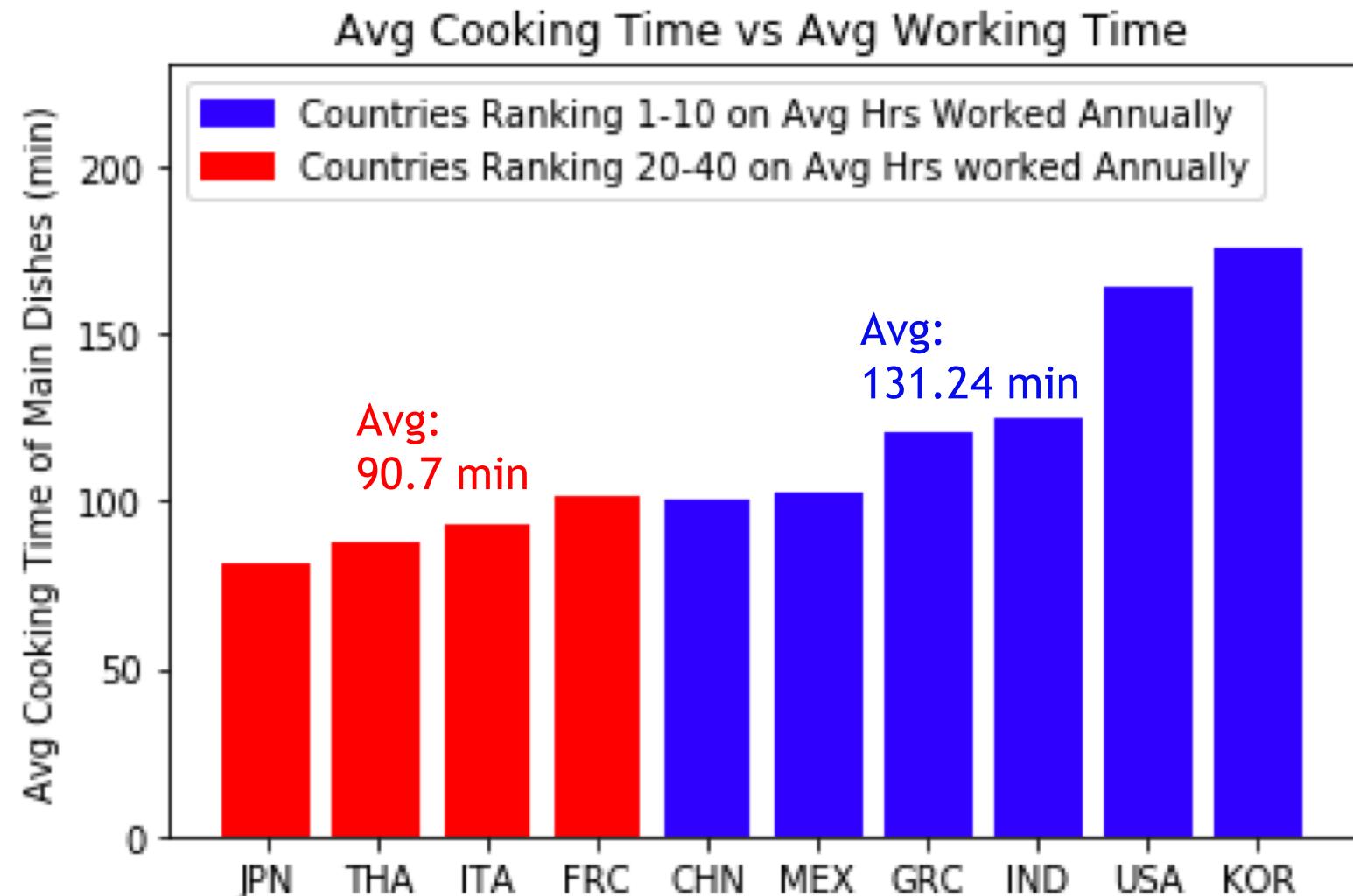


Mexico



# Cook Time v/s Working Hours

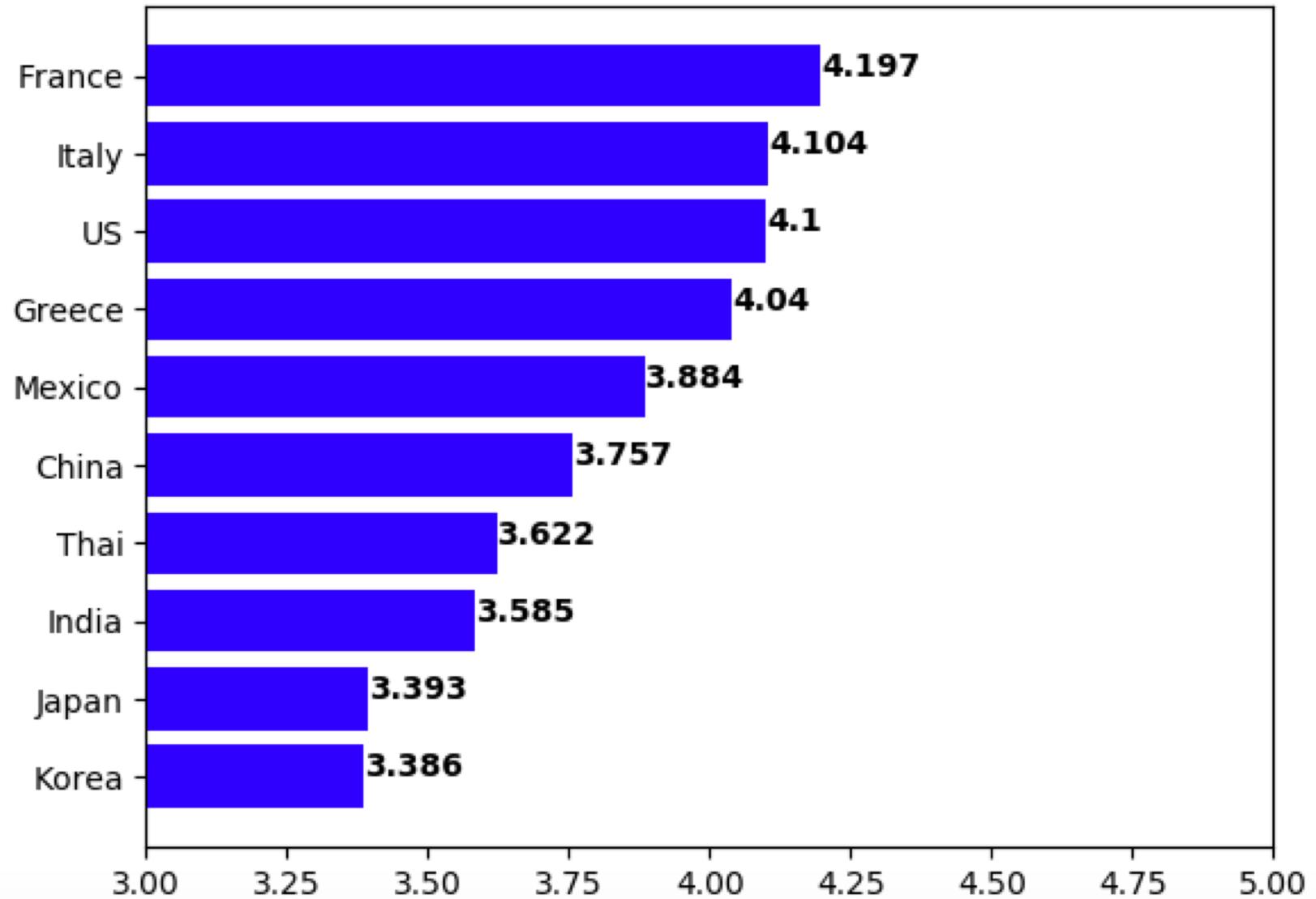
- How busy people are with their careers in different countries?
- How long it takes to cook a meal on average in that country?



# Popularity

Which Countries  
Have The Most  
Popular Main Dishes?

Food Ratings





# Conclusion

- The frequency of ingredients used in the recipes was proportional to abundance of the food item in that country.
- Asian countries had relatively lower rate of obesity.
- Calories, fat and protein has a high correlation with the obesity rate.
- Average prep time of a dish was surprisingly correlated to the annual working hours.

# Thank you!

Group 20

