**Methodology for UK Food Standards Agency Database Challenge**

This project involves setting up a NoSQL database to evaluate food hygiene ratings for establishments across the United Kingdom, as provided by the Food Standards Agency (FSA). The goal is to analyze the data for a food magazine, *Eat Safe, Love*, which will help journalists and critics focus their articles on establishments with specific ratings and characteristics.

* Import the data from the establishments.json file into a MongoDB database.
* Use the mongoimport command to import the establishments.json file into a new database called uk\_food and a collection called establishments.

Create an instance of the MongoDB client and verify the successful import by:

* Listing all databases and confirming the presence of uk\_food.
* Listing collections within the uk\_food database and confirming establishments is present.
* Displaying one document from the establishments collection to ensure the data is loaded correctly.

**Adding New Restaurant Data:**

* + Add a new restaurant, "Penang Flavours", to the database.
  + Insert the restaurant's information (such as business name, address, hygiene scores, etc.) into the establishments collection.
  + Query the database to find the BusinessTypeID for the "Restaurant/Cafe/Canteen" type and update the new restaurant with this ID.

**Removing Dover Local Authority Establishments:**

* + Used count\_documents to check how many documents exist for the Dover Local Authority.
  + Delete these establishments from the database using delete\_many.
  + Re-check the number of documents to confirm the removal.

**Data Type Conversion:**

* + Use update\_many to convert the latitude and longitude fields to decimal numbers.
  + Convert RatingValue to integers, handling non-numeric values

**Exploratory Analysis**

* Use the MongoDB aggregation framework and other query operations like count\_documents to extract relevant data.
* Display results using pprint for readability.
* Convert results to a Pandas DataFrame for easier manipulation and visualization.
  + - Use a query filter to find these establishments.
    - Convert the results to a DataFrame and display the number of rows and the first 10 rows.