

# Practical Exam: Coffee Shops

## Instructions

- Use any tools that you are comfortable with to perform the tasks required (for example Tableau, Power BI, MS Excel, Python, R).
- Write your solutions in the workspace provided from your certification page.
- Include all of the visualizations you create to complete the tasks.
- Visualizations must be visible in the published version of the workspace. Links to external visualizations will not be accepted.
- You do not need to include any code.
- You must pass all criteria to pass this exam. The full criteria can be found [here](#).

## Background

Caffeine Form is a company creating coffee cups from recycled material.

Caffeine Form sells cups to coffee shops through their website. They would prefer to partner directly with the shops.

The company believes that stores with more reviews will help them to better market their product.

The company want to focus on the types of shop that get the most reviews.

They now want a report on how types of shop and number of reviews are related.

## Data

The dataset can be downloaded from [here](#).

Column Name	Criteria
Region	Nominal. Where the store is located. One of 10 possible regions (A to J). Missing values should be replaced with "Unknown".
Place name	Nominal. The name of the store. Missing values should be replaced with "Unknown".
Place type	Nominal. The type of coffee shop. One of "Coffee shop", "Cafe", "Espresso bar", and "Others" Missing values should be replaced with "Unknown".
Rating	Ordinal. Average rating of the store from reviews. On a 5 point scale. Missing values should be replaced with 0.
Reviews	Continuous. The number of reviews given to the store. Missing values should be replaced with the overall median number.
Price	Ordinal. The price range of products in the store. One of "\$", "\$\$", or "\$\$\$\$" Missing values should be replaced with "Unknown".
Delivery Option	Nominal. If delivery is available. Either True or False Missing values should be replaced with False.
Dine in Option	Nominal. If dine in is available. Either True or False Missing values should be replaced with False.
Takeaway Option	Nominal. If take away is available. Either True or False Missing values should be replaced with False.

## Tasks

Submit your answers directly in the workspace provided.

1. For every column in the data:
  - a. State whether the values match the description given in the table above.
  - b. State the number of missing values in the column.
  - c. Describe what you did to make values match the description if they did not match.
2. Create a visualization that shows which is the most common type of coffee store. Use the visualization to:
  - a. State which category has the most observations
  - b. Explain whether the observations are balanced across categories
3. Describe the distribution of all of the number of reviews. Your answer must include a visualization that shows the distribution.
4. Describe the relationship between type of store and number of reviews. Your answer must include a visualization to demonstrate the relationship.

## Sample Solution

You can find an example passing solution for this sample [here](#).