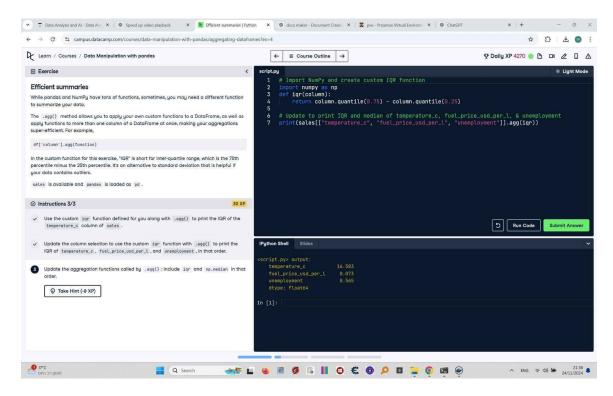
# **Efficient Summaries with Custom Functions (Final Version)**

This document includes the question, the solution, and a breakdown of the code provided in the screenshot.

# **Uploaded Screenshot**

Below is the screenshot of the task:



### Question

- 1. Use the custom `iqr` function defined for you along with `.agg()` to print the IQR of the `temperature\_c` column of `sales`.
- 2. Update the column selection to use the custom `iqr` function with `.agg()` to print the IQR of `temperature\_c`, `fuel\_price\_usd\_per\_l`, and `unemployment`, in that order.
- 3. Update the aggregation functions called by `.agg()`: include `iqr` and `np.median` in that order.

#### **Answer**

# Import NumPy import numpy as np

# A custom IQR function def iqr(column):

return column.quantile(0.75) - column.quantile(0.25)

# Print IQR and median of temperature\_c, fuel\_price\_usd\_per\_l, and unemployment print(sales[['temperature\_c', 'fuel\_price\_usd\_per\_l', 'unemployment']].agg([iqr, np.median]))

# **Code Explanation**

# Explanation of the code:

- 1. `import numpy as np`: Imports the NumPy library, which is necessary to use the `np.median` function.
- 2. `def iqr(column): `: Defines a custom function `iqr` to calculate the interquartile range (IQR) of a column by subtracting the 25th percentile from the 75th percentile.
- 3. `sales[['temperature\_c', 'fuel\_price\_usd\_per\_l', 'unemployment']].agg([iqr, np.median])`: Applies both the `iqr` and `np.median` aggregation functions to the selected columns (`temperature\_c`, `fuel\_price\_usd\_per\_l`, and `unemployment`) in the `sales` DataFrame and prints the results in the specified order.