Ncf_q10.py

File Name	Desription
ncf_q3_visulization.py	Answers: "*How are these grants distributed geographically by municipality (city/ towns) and region (Boston, Western Mass, Gateway cities)?"* <u>Input:</u> Dataset expected to have columns including City, Region, Grant Total Amount, Grant Fiscal Year, and Number of Grants. <u>Output:</u> Data Cleaning and Transformation: ● The Grant Total Amount column is cleaned by replacing 'Not Specified' with NaN, removing commas, and converting to numeric. ● Boston neighborhoods are mapped to 'Boston'. ● Entries from cities like 'Chicago' and 'New York City' are filtered out. Data Grouping and Analysis: ● Top 10 cities by total grant amount. ● Total grant amount by region. ● Top 5 cities in each region by grant amount. Visualizations: ● Bar plot: Top 10 cities by total grant amount. ● Bar plot: Total grant amount by region. ● Bar plot: Top 5 cities in each region by grant amount. ● Line plot: Total grant amounts by region for the years 2019-2021. ● Line plot: Top 5 cities in each region for the years 2019-2021. Output Files: ● An Excel file: grants_by_city_region.xlsx containing the grouped data by city and region.
ncf_q4_visualization.py	Answers: "*How has this grant giving changed over time, in terms of dollars, # of grants/# of pledges, and location (city/town + region), and topic? We are particularly interested in looking at trends in the wake of 2020?"* <u>Input:</u>

	The dataset is expected to have columns including Grant Total Amount, Grant Fiscal Year, and Region. <u>Output:</u> Data Cleaning and Transformation: ● The Grant Total Amount column is cleaned by replacing 'Not Specified' with NaN, removing commas, and converting to numeric. Data Filtering: ● Filtered data for the years 2019-2021. Data Pivoting and Visualization: ● Pivot table created with Grant Fiscal Year as index and Region as columns. ● Bar plot: Total grant amounts by region for the years 2019-2021 (stacked bar chart).
Ncf_q10.py	Answers: "*What is the distribution of the support strategy ?(e.g. capacity building, capital and infrastructure, continuing support, etc.)"* <u>Input:</u> The dataset is expected to have columns including Grant Total Amount, Grant Fiscal Year, and Region <u>Output:</u> Data Cleaning and Transformation: ● The Grant Total Amount column is cleaned by replacing 'Not Specified' with NaN, removing commas, and converting to numeric. Data Grouping and Pivoting: ● Grouped data by Grant Fiscal Year and Region with the sum of Grant Total Amount. Output Files: ● An Excel file: grants_by_year_and_region.xlsx containing the pivot table of grant amounts by year and region. ● Printed output of the pivot table.
Total_Giving_Analysis.xlsx	Answers: *"What portion of the total giving in Massachusetts do racial equity grants represent in terms of # of grants, dollar value, and how does this vary geographically?*
