**Rent Affordability and Income Inequality in London**

**Introduction**

Welcome to the "Rent Affordability and Income Inequality in London" project repository. This project provides a detailed analysis of the current state of rent affordability and income inequality within London. By examining the relationship between rental prices, income levels, and socioeconomic factors, this project aims to shed light on the disparities and challenges faced by London residents.

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**Project Overview**

This project focuses on the intricate relationship between rental prices, income levels, and the socioeconomic factors that influence them. It encompasses a broad spectrum of data points, including rental prices, property types, and income levels across different boroughs and employment categories, enabling a multifaceted understanding of the issues at hand.

**Motivation**

The motivation behind this project is driven by a desire to contribute to the ongoing conversation on affordable housing and income inequality. London serves as a pertinent case study for this analysis due to its rich history, diverse population, and significant urban challenges.

**Methodology**

The methodology of this research project includes:

1. **Data Collection:**
   * Data was gathered from three distinct sources, including web scraping from Rightmove, London Datastore, and spatial data files.
2. **Data Cleaning and Wrangling:**
   * Utilizing R programming language for data cleaning and preparation, including removal of duplicates, handling missing values, and standardization.
3. **Data Analysis Techniques:**
   * Employing descriptive and inferential statistics, correlation analysis, and geospatial analysis to uncover patterns and insights.
4. **Data Visualization:**
   * Creating a variety of visualizations such as bar charts, scatter plots, geospatial mappings, and tree maps to effectively communicate findings.
5. **Ethical Considerations:**
   * Ensuring data collection and analysis were conducted responsibly, with a focus on inclusivity and comprehensiveness.

**Findings**

The project revealed several key insights:

* **Income Inequality Across Employee Types:** Significant income disparity between male and female employees.
* **Affordability Ratio Below Average:** Most houses across London boroughs are highly unaffordable.
* **Excessive Percentage of Income Spent on Rent:** Londoners spend a significant portion of their income on rent.
* **High Rent in Relation to Income:** Average weekly rent exceeds average weekly income for many residents.
* **Positive Relationship Between Income and Rent:** Strong positive correlation between income and rent across boroughs.
* **Boroughs with Highest and Lowest Rents:** Significant geographical disparities in rental prices.
* **Trends in Employee Earnings (2002-2022):** Gradual increase in earnings not keeping pace with escalating rental prices.
* **Geographical Variance in Rent and Income:** Pronounced variances between Inner and Outer London.

**Discussion**

The findings highlight critical issues in rent affordability and income inequality, echoing broader social concerns. They underscore the need for targeted policies to address gender-based income inequality and housing affordability. The spatial disparities in housing costs further emphasize the need for nuanced urban planning and housing policies.

**Conclusion**

The analysis provides a comprehensive understanding of the rent affordability and income inequality challenges in London. It aims to inspire dialogue, inform policy decisions, and advocate for a more equitable and sustainable housing market in the city.

**Data Sources**

* **Rightmove:** Rental listings data.
* **London Datastore:** Employee earnings and spatial data.
* **Other sources:** As referenced in the project documentation.

**Installation and Usage**

1. **Clone the repository:**

bash

Copy code

git clone https://github.com/yourusername/Rent-Affordability-London.git

cd Rent-Affordability-London

1. **Set up the environment:**
   * Ensure you have R and RStudio installed.
   * Install required packages as listed in the requirements.txt or equivalent.
2. **Run the analysis:**
   * Follow the instructions in the project files to run the data analysis and generate visualizations.

**Contributing**

We welcome contributions to improve this project. To contribute, please follow these steps:

1. Fork the repository.
2. Create a new branch (git checkout -b feature-branch).
3. Make your changes and commit them (git commit -m 'Add new feature').
4. Push to the branch (git push origin feature-branch).
5. Create a new Pull Request.

**License**

This project is licensed under the MIT License. See the LICENSE file for details.

**Contact**

For any questions or feedback, please contact:

* **Emmanuel Nwonye**
* Email: e.nwonye0320231@arts.ac.uk
* LinkedIn: [linkedin.com/in/emmanuel-nwonye-40a024183](https://www.linkedin.com/in/emmanuel-nwonye-40a024183/)