# Data Analysis Project: Real Estate Analysis for ImmoEliza

## Project Overview

The real estate company "ImmoEliza" wants to establish itself as the biggest real estate company in all of Belgium. To achieve this goal, it is important to identify the important variables such as property size and location etc to predict property prices in Belgium. Before building the model, they require a preliminary analysis to gather insights and information about the real estate market.

## Project Details

- Repository: challenge-data-analysis

- Type of Challenge: Consolidation

- Duration: 3 days

- Deadline: xx/xx/20xx 13:30

- Team Challenge: 3 members

## Mission Objectives

This project aims to achieve the following objectives:

- Utilize pandas for data manipulation and analysis.

- Employ data visualization libraries such as matplotlib or seaborn.

- Perform data cleaning to ensure a high-quality dataset.

- Apply appropriate color usage in visualizations to enhance clarity.

- Establish meaningful conclusions and insights from the data analysis.

- Formulate creative and thought-provoking questions based on the dataset.

- Demonstrate critical thinking and explore innovative approaches to data analysis.

## Project Steps

### Step 1: Data Cleaning

The first step is to clean the dataset to ensure its quality and reliability. It involves the following tasks:

- Identify and remove any duplicate entries from the dataset.

- Handle any missing or erroneous data.

- Remove unnecessary whitespace and formatting inconsistencies.

- Validate and correct data types if necessary.

### Step 2: Exploratory Data Analysis (EDA)

Once the dataset is cleaned, the next step is to perform exploratory data analysis to gain insights and answer key questions. This phase includes the following tasks:

- Understand the structure of the dataset by determining the number of rows and columns.

- Examine the statistical summary of the variables to understand their distributions.

- Identify correlations between variables and the target variable (property price).

- Visualize the relationships between variables using appropriate charts and plots.

- Analyze the impact of different variables on the property price using statistical measures.

### Step 3: Data Interpretation and Visualization

In this step, the findings from the exploratory data analysis are interpreted and visualized to communicate insights effectively. This includes the following tasks:

- Summarize the key findings and trends observed during the analysis.

- Create visualizations such as bar charts, scatter plots, histograms, and heatmaps to present the results.

- Use appropriate labels, titles, and color schemes to enhance the visual appeal and readability of the plots.

- Draw conclusions based on the analysis and provide actionable recommendations to ImmoEliza.

### Step 4: Presentation and Deliverables

The final step involves preparing a compelling presentation to communicate the analysis results to the stakeholders. The presentation should cover the following aspects:

- A clear and concise overview of the project objectives and methodology.

- Summary of the data cleaning process and its impact on the analysis.

- Visualizations and insights derived from the exploratory data analysis.

- Answers to specific questions posed in the project requirements.

- Conclusions and recommendations for ImmoEliza based on the analysis.

## Deliverables

The following deliverables are expected for this project:

- A well-documented and structured codebase, with clear comments explaining the steps and methodologies used.

- A detailed README.md file that provides an overview of the project, installation instructions, usage guidelines, visuals, contributors, timeline, and personal situation.

- Presentation slides (e.g., PowerPoint or Google Slides) that effectively convey the analysis findings and insights.

- Visualizations and plots generated during the analysis