**WEEK1: Linear regression**

This notebook demonstrates the implementation of a **Linear Regression model** using Python. It blends both explanatory and executable Python code starting from the process of data preparation, visualization, model building, and evaluation.

**1. Linear regression**

1. **Data Loading & Preprocessing**: Where we learnt about how to load dataset (likely CSV/Excel) and preprocessing steps such as handling missing values, renaming columns, and selecting features/targets.
2. **Exploratory Data Analysis (EDA)**: Where we learnt about the visualization of data distributions and the use of matplotlib/seaborn library for scatter plots and correlation analysis.
3. **Splitting Data**: Where we learnt how to separate the dataset into training and testing sets using train\_test\_split.
4. **Model Implementation**: Using library schikitlearn we learn training the model using training data.
5. **Model Evaluation**: Predictions made on the test data. Performance metrics such as **Mean Squared Error (MSE)**, **R² Score**, etc. are calculated.

The notebook provides a solid foundation for understanding and implementing Linear Regression in Python. It successfully bridges theoretical understanding with hands-on practice.