1. **Write an article on** **Excel’s Strengths and Weaknesses in Predictive Analysis and the Role of Excel in Making Data-Driven Business Decisions, "**
2. **Data Analysis Dashboard Project: Jumia Product Analysis**

**Project Title: "Jumia Product Performance Dashboard: Analyzing Pricing, Discounts, and Customer Reviews"**

**Objective:**

The goal of this project is to create an interactive Excel dashboard that provides insights into the performance of products listed on Jumia. Students will analyze the dataset to understand the relationship between pricing, discounts, customer reviews, and ratings. The dashboard will help Jumia identify trends, popular products, and areas for improvement.

**Dataset Overview:**

The dataset contains the following columns:

* **Product**: Name of the product.
* **Current Price**: The current selling price of the product (in KSh).
* **Old Price**: The original price of the product (in KSh).
* **Discount**: The discount percentage offered on the product.
* **Review**: The number of reviews for the product.
* **Rating**: The average customer rating of the product (out of 5).

**Project Tasks:**

Students will work to analyze the dataset and create an interactive Excel dashboard. The project will be divided into the following steps:

**Step 1: Data Cleaning and Preparation**

1. **Data Cleaning**:
   * Check for missing values in the dataset (e.g., missing reviews or ratings).
   * Remove duplicates if any.
   * Ensure all price columns are in numeric format (remove "KSh" and commas).
   * Standardize the rating column to a numeric format (e.g., convert "4.5 out of 5" to 4.5).
2. **Data Enrichment**:
   * Calculate the **absolute discount amount** for each product (Old Price - Current Price).
   * Create a new column to categorize products based on their **rating** (e.g., "Poor" for ratings below 3, "Average" for 3-4, and "Excellent" for 4.5 and above).
   * Create a new column to categorize products based on **discount percentage** (e.g., "Low Discount" for <20%, "Medium Discount" for 20-40%, "High Discount" for >40%).

**Step 2: Data Analysis**

1. **Descriptive Statistics**:
   * Calculate the average current price, old price, discount percentage, and rating across all products.
   * Identify the most expensive and least expensive products.
   * Determine the average discount percentage and rating for each product category.
2. **Trend Analysis**:
   * Analyze the relationship between **discount percentage** and **number of reviews**. Do higher discounts lead to more reviews?
   * Analyze the relationship between **rating** and **number of reviews**. Do higher-rated products have more reviews?
   * Identify the top 5 products with the highest ratings and the top 5 products with the lowest ratings.
3. **Product Performance**:
   * Identify the top 10 products with the highest discounts.
   * Identify the top 10 products with the most reviews.
   * Compare the performance of products with high discounts versus low discounts (e.g., average rating, number of reviews).

**Step 3: Dashboard Design**

1. **Dashboard Layout**:
   * Create a visually appealing and interactive dashboard in Excel.
   * Use **Pivot Tables**, **Charts**, and **Slicers** to make the dashboard interactive.
   * Include the following sections in the dashboard:
     + **Overview**: Key metrics such as total number of products, average rating, average discount percentage, and total reviews.
     + **Product Performance**: A table or chart showing the top 10 products by rating, reviews, and discounts.
     + **Trend Analysis**: Charts showing the relationship between discount percentage and reviews, and between rating and reviews.
     + **Product Categories**: A breakdown of products by rating category (Poor, Average, Excellent) and discount category (Low, Medium, High).
2. **Visualizations**:
   * Use **bar charts**, **line charts**, and **pie charts** to visualize trends and comparisons.
   * Use **conditional formatting** to highlight key metrics (e.g., high discounts, low ratings).
   * Add **slicers** for filtering data by rating, discount category, and product type.

**Step 4: Presentation**

1. **Presentation**:
   * Each student will present their dashboard to the class.
   * Explain the insights derived from the data and how the dashboard can help Jumia make informed decisions.
   * Highlight any interesting trends or patterns discovered during the analysis.
2. **Dashboard Demonstration**:
   * Demonstrate the interactive features of the dashboard (e.g., filtering by product category, discount range).
   * Show how the dashboard can be used to identify high-performing products and areas for improvement.

**Example Insights to Explore:**

* Are higher discounts leading to more sales (as indicated by the number of reviews)?
* Do higher-rated products have higher prices, or are they more affordable?
* Which product categories (e.g., home appliances, tools, decorations) have the highest ratings and discounts?
* Are there any products with high discounts but low ratings? What could be the reason?

**Tools Required:**

* Microsoft Excel (Pivot Tables, Charts, Slicers, Conditional Formatting)
* Basic knowledge of data analysis and visualization techniques.

**Deliverables:**

1. A cleaned and enriched Excel dataset.
2. An interactive Excel dashboard with visualizations and slicers.
3. A presentation (PowerPoint or Google Slides) summarizing the insights and demonstrating the dashboard.
4. All assignments should be submitted to dataanalysis@luxdevhq.com and copied to by 6PM Sunday 10th August 2025