**Project: Play Store Applications Analysis**

**Overview:** In this project, I analysed Play Store applications to provide actionable insights for AlmaBetter, focusing on various parameters to optimize their app launch strategy. The project involved extensive data cleaning, exploratory data analysis (EDA), and visualization using Python libraries like Pandas, NumPy, Matplotlib, Seaborn, and Datetime.

**Key Findings:**

1. **Focus Areas for AlmaBetter:**
   * **Least Explored Categories:** Develop apps in less competitive categories like Events and Beauty.
   * **Free Apps:** 92% of apps are free, so prioritizing free apps is crucial.
   * **Content for Everyone:** Apps with content suitable for everyone have the highest install rates.
   * **Regular Updates:** Regular updates attract more users.
   * **User Sentiments:** User needs and features should be a priority as sentiments vary over time.
2. **Statistics:**
   * **Free Apps:** 92%
   * **No Age Restrictions:** 82%
   * **Most Competitive Category:** Family
   * **Highest Average Installs:** Game
   * **Top-Rated Apps:** 80%
   * **Top Categories by Count:** Family (1906), Game (926), Tools (829)
   * **Top Genres:** Tools, Entertainment, Education, Business, Medical
   * **App Sizes:** 8783 apps < 50MB
   * **High Ratings:** 7749 apps > 4.0
   * **Popular Free Apps:** 20 free apps with over a billion installs
   * **Top Paid App:** Minecraft with over 10M installs
   * **Highest Average Installation Fee:** Finance category
   * **Median App Size:** 12MB
   * **App Popularity by Size:** Apps > 90MB have the highest reviews
   * **Top Reviews:** Helix Jump (positive), Angry Birds Classic (negative)
   * **Sentiment Distribution:** Positive (64%), Negative (22%), Neutral (13%)
3. **Detailed Insights:**
   * **Rating:** Most apps have ratings between 4 and 5, with a peak at 4.3.
   * **Size:** Most apps are small in size.
   * **Installs:** Family, Game, and Tools are the most common categories, but Games, Communication, Productivity, and Social have the highest installs.
   * **Type:** 92% of apps are free; Family category has the most paid apps.
   * **Content Rating:** Apps rated for everyone have the most installs.
   * **Reviews:** Strong correlation (0.64) between installs and reviews.
   * **Sentiment:** Most reviews are positive, with a mix of neutral and negative sentiments.
   * **Sentiment Analysis:** Most reviews fall in a mid-range of sentiment polarity and subjectivity.

**Challenges & Future Work:**

1. **Data Cleaning:** Significant effort was required to clean the data.
2. **Missing Values:** 13.60% of reviews were NaN, limiting the analysis.
3. **Data Merging:** Only 10% of apps had user reviews after merging datasets, reducing data richness.
4. **Future Analysis:** Further exploration of app versions and sizes could provide additional insights.
5. **Advanced Analytics:** Machine learning models could enhance insights, planned for future work.

**Project Execution:**

1. **Libraries Imported:** Pandas, NumPy, Matplotlib, Seaborn, Datetime.
2. **Data Loading:** Loaded the dataset from CSV.
3. **Data Cleaning:**
   * Removed special characters and letters from columns (Installs, Size, Price).
   * Converted columns to numeric types.
   * Handled missing values and duplicates.
4. **Visualizations:** Created various visualizations to represent insights.

**Impact:** The analysis provided AlmaBetter with valuable insights into app categories, pricing strategies, content ratings, and user sentiments. These findings can help optimize app development and marketing strategies for better user engagement and higher installs.

I analysed Play Store apps for AlmaBetter using Python to optimize their app launch strategy. The project involved extensive data cleaning, exploratory data analysis (EDA), and visualization using Python libraries like Pandas, NumPy, Matplotlib, Seaborn, and Datetime.

* If we are talking about the **key findings** then focus on less competitive categories like events and beauty, 92% of apps are free, so prioritizing free apps is crucial, content suitable for everyone have the highest install rates, Regular updates attract more users, etc.
* If we focus on **detail insights** then Most competitive category: Family. Highest average installs: Game. Top categories by app count: Family, Game, Tools. Popular free apps: 20 free apps with over a billion installs. Top paid app: Minecraft with over 10M installs., Median app size: 12MB. Highest reviews: Apps > 90MB.
* If we are talking about the **challenges** then data cleaning and handling missing values were major challenges. Future work includes exploring app versions and using machine learning for deeper insights.

Provided AlmaBetter with insights to improve app development and marketing strategies, focusing on key app categories, pricing, and user engagement.