**Task: Data Wrangling and Analysis for Loan Classification**

In this data wrangling and analysis task, you will work with a dataset focused on loan classification. The dataset comprises various columns that provide information about loan applicants, their financial attributes, and the outcome of their loan applications. Your objective is to perform comprehensive data wrangling, exploratory data analysis (EDA), and prepare the dataset for building a loan classification model.

**Dataset Columns:**

1. **Loan\_ID:** Unique identifier for each loan application.
2. **Gender:** Gender of the loan applicant (e.g., Male, Female).
3. **Married:** Marital status of the loan applicant (e.g., Yes, No).
4. **Dependents:** Number of dependents of the loan applicant.
5. **Education:** Educational background of the loan applicant (e.g., Graduate, Not Graduate).
6. **Self\_Employed:** Indicates whether the loan applicant is self-employed (e.g., Yes, No).
7. **ApplicantIncome:** Income of the loan applicant.
8. **CoapplicantIncome:** Income of the co-applicant (if applicable).
9. **LoanAmount:** Amount of the loan applied for.
10. **Loan\_Amount\_Term:** Term of the loan in months.
11. **Credit\_History:** Credit history of the loan applicant (e.g., 1.0, 0.0), where 1.0 indicates a good credit history and 0.0 indicates a poor credit history.
12. **Property\_Area:** Area where the property associated with the loan is located (e.g., Urban, Semiurban, Rural).
13. **Loan\_Status:** The target variable indicating whether the loan was approved or not (e.g., Y for Yes, N for No).

**Tasks to Perform:**

1. **Data Cleaning and Preprocessing:** Clean the dataset by handling missing values, duplicate records, and outliers. Impute missing data using appropriate techniques and decide on strategies for dealing with outliers.
2. **Exploratory Data Analysis (EDA):** Perform exploratory data analysis to gain insights into the data. Calculate summary statistics, visualize distributions, and create plots to understand the relationships between different variables. Identify patterns and trends that could influence loan approval.
3. **Feature Engineering:** Create new features if necessary to capture valuable information from the existing columns. For example, you could calculate the total income by summing up the applicant and co-applicant incomes.
4. **Data Transformation:** Encode categorical variables using techniques like one-hot encoding or label encoding. Standardize or normalize numerical features if required for certain machine learning algorithms.
5. **Correlation Analysis:** Analyze the correlation between various features and the target variable (Loan\_Status). Identify features that have a significant impact on loan approval.

**Here are some specific questions you can ask about the dataset to guide your data analysis and exploration:**

1. **Data Overview and Summary:**
   * How many loan applications are included in the dataset?
   * What is the overall approval rate for loan applications in the dataset?
   * What is the distribution of loan applicants based on gender and marital status?
2. **Income and Loan Amount:**
   * What is the range of applicant income and coapplicant income?
   * How does the distribution of applicant income differ based on gender and education?
   * Is there a correlation between applicant income and the requested loan amount?
3. **Loan Approval and Credit History:**
   * How does credit history relate to loan approval rates?
   * What percentage of loan applicants with good credit history (Credit\_History = 1) were approved for loans?
   * Are there any notable differences in loan approval rates between urban, semiurban, and rural property areas?
4. **Dependents and Education:**
   * How does the number of dependents impact loan approval rates?
   * Does educational background (Education) play a role in loan approval?
5. **Loan Term and Amount:**
   * Is there a connection between the loan term (Loan\_Amount\_Term) and the loan approval outcome?
   * How does the requested loan amount (LoanAmount) vary across different property areas?

Remember that the quality of your data preparation and analysis directly impacts the performance of the subsequent loan classification model. Your efforts in cleaning, transforming, and exploring the data will contribute to the overall success of the project by providing a solid foundation for building a robust predictive model for loan approval.