Instructions to Create a New Year Sales Analysis Project

This project involves analyzing New Year sales data to identify patterns, trends, and insights that can help in understanding customer behavior. Below are step-by-step instructions and questions to guide you through the project:

Step 1: Import Libraries

1. Start by importing essential libraries such as numpy, pandas, matplotlib.pyplot, and seaborn.

2. Use %matplotlib inline to display your plots within the notebook.

Step 2: Load and Explore the Dataset

1. Import the CSV file containing the New Year sales data.

Step 3: Data Cleaning

1. Check for null values.

2. Drop unnecessary columns that do not contribute to analysis.

3. Drop rows with null values in other important columns.

4. Convert the Amount column to an integer type for consistency in calculations.

Step 4: Data Overview and Summary

1. Get summary statistics.
2. Check for unique values in columns to understand the dataset better

Exploratory Data Analysis (EDA)

1. Gender Analysis

- **Question**: Which gender has a higher purchasing power?

    o Create a count plot for gender.

    o Plot a bar chart to show the total purchase amount by gender.

2. Age Group Analysis

- **Question**: Which age group has the most purchases, and is there a trend in purchasing power by age?

    o Plot a count plot of age groups with hue as gender.

    o Plot a bar chart showing total purchase amount by age group.

3. State Analysis

- **Question**: Which states generate the highest number of orders and revenue?

    o Plot bar charts for the number of orders and total amount by state, focusing on the top 10 states.

4. Marital Status Analysis

- **Question**: How does marital status affect purchasing behavior?

    o Plot a count plot for marital status and a bar chart showing total amount spent by marital status, with gender as a hue.

5. Occupation Analysis

- **Question**: Which occupations contribute most to sales?

    o Create a count plot for occupation and a bar chart for total sales by occupation.

6. Product Category Analysis

- **Question**: What product categories are the most popular, and which ones generate the most revenue?

    o Create a count plot for product categories.

    o Create a bar chart to show the total amount by product category for the top categories.

Conclusion

- Summarize the findings. Based on the analysis, describe the typical profile of a high-purchasing customer.

Additional Questions for Further Exploration

1. Which age group contributes the most to each product category, and does this vary by gender?

2. How does the amount spent vary by marital status across different age groups?

3. Which states show the highest growth in orders and revenue, and are there seasonal spikes in sales?

4. Are there specific occupations that prefer particular product categories more than others?

5. What is the correlation between age and spending amount, and does this differ by gender?

ALL THE BEST!!!