**Task Assignment: Sales and Customer Behavior Analysis**

**Task Title:** Sales and Customer Behavior Analysis

**Objective:**
Analyze the sales and customer behavior data from an e-commerce platform to identify trends, understand customer preferences, and provide actionable insights to improve marketing strategies.

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**Team Composition and Roles:**

1. **Data Collection and Cleaning Lead: Aditya Zinjurde(9767136651)**
   - Responsible for gathering the provided datasets and performing data cleaning tasks.
   - Ensures data consistency, removes outliers, and handles missing values.
   - Prepares the cleaned dataset for further analysis.
2. **Exploratory Data Analysis (EDA) and Visualization Specialist: Shrikrishna Jadhavar(8805145120)**
   - Conducts exploratory data analysis to uncover patterns, trends, and insights.
   - Creates visualizations such as charts, graphs, and dashboards using Python (Matplotlib, Seaborn) or Tableau/Power BI.
   - Works closely with the reporting lead to present key findings effectively.
3. **Statistical Analysis and Reporting Lead: Rasika Patil(9356972765)**
   - Performs statistical analysis, including correlation studies and trend analysis, to provide deeper insights.
   - Documents findings in a detailed report with actionable recommendations.
   - Compiles all visualizations, results, and recommendations into a professional presentation deck.

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**Task Details:**

1. **Data Understanding and Preparation:**
   - Review the dataset containing customer demographics, purchase history, and website interaction logs.
   - Clean and preprocess the data to ensure accuracy and reliability.
2. **Exploratory Data Analysis (EDA):**
   - Identify key trends such as peak sales periods, product popularity, and high-revenue customer segments.
   - Analyze customer segments based on demographics and purchase behaviors.
3. **Visualization and Reporting:**

- Create visual dashboards to display insights (e.g., revenue trends, customer segmentation, product performance).
- Provide actionable insights for improving marketing strategies and increasing customer retention.
4. **Bonus (Optional): Predictive Analysis**
   - Build a predictive model (e.g., regression, classification) to forecast future sales or identify high-value customers.

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**Tools/Technologies:**

- **Mandatory:** Python (Pandas, NumPy, Matplotlib, Seaborn), SQL, Excel.
- **Optional:** Tableau/Power BI for advanced visualization.

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**Deliverables:**

- Cleaned and preprocessed dataset.
- Visualizations and dashboards showcasing trends and insights.
- Final report with actionable recommendations.
- Presentation deck summarizing the project outcomes.

**Deadline:** January 15th, 2025.