**Project-2 Analysis**

**Task 1: Top 5 Cities with Highest Spends and Their Percentage Contribution**

This task involved identifying the top 5 cities based on total spending and calculating their percentage contribution to the overall credit card spends. This analysis highlighted which cities are the highest contributors, enabling targeted marketing and resource allocation to maximize revenue from these regions.

**Task 2: Highest Spend Month and Amount Spent in That Month for Each Card Type**

By determining the month with the highest spending for each card type, this task provided insights into spending patterns over time. Understanding these trends allows for better financial planning and promotional strategies, aligning marketing efforts with peak spending periods.

**Task 3: Transaction Details When Cumulative Total Spends Reach 1,000,000 for Each Card Type**

This analysis focused on identifying transactions for each card type when cumulative spending reached 1,000,000. Recognizing these key transactions helps in assessing customer behavior at significant spending milestones, which can be used to tailor credit offers and rewards.

**Task 4: City with the Lowest Percentage Spend for Gold Card Type**

The task pinpointed the city with the lowest percentage spend for the gold card type. This information is crucial for understanding regional disparities in card usage and could inform strategies to boost spending in underperforming areas.

**Task 5: City with Highest and Lowest Expense Type**

By determining the expense types with the highest and lowest spending in each city, this task provided valuable insights into spending preferences and behavior. This information aids in inventory management, product offerings, and targeted marketing strategies.

**Task 6: Percentage Contribution of Spends by Females for Each Expense Type**

This analysis examined the contribution of female spending across different expense types. Understanding the percentage of spending by gender helps in designing gender-specific marketing campaigns and product development strategies.

**Task 7: Card and Expense Type Combination with Highest Month-over-Month Growth in Jan-2014**

Identifying the card and expense type combination with the highest month-over-month growth in January 2014 revealed significant spending trends and shifts. This information is valuable for detecting emerging trends and adjusting marketing strategies accordingly.

**Task 8: City with Highest Total Spend to Total Number of Transactions Ratio During Weekends**

This task calculated the ratio of total spending to the number of transactions for each city during weekends. It provides insights into high-value transactions and helps in optimizing marketing efforts for weekends, when spending behavior may differ from weekdays.

**Task 9: City That Took the Least Number of Days to Reach Its 500th Transaction**

By identifying the city that reached its 500th transaction in the fewest days, this analysis highlighted the fastest-growing markets. This information can be used to enhance customer engagement and focus efforts on rapidly growing regions.