

# Analyzing credit card transactions - India

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Problem statement : Analyse the credit card transactions

Objective: Analyzing credit card transactions to provide valuable insights into customer behavior , spending patterns and conclude the scenarios of credit card users regarding various aspects

Data set : <https://www.kaggle.com/datasets/thedevastator/analyzing-credit-card-spending-habits-in-india>

## **About this dataset**

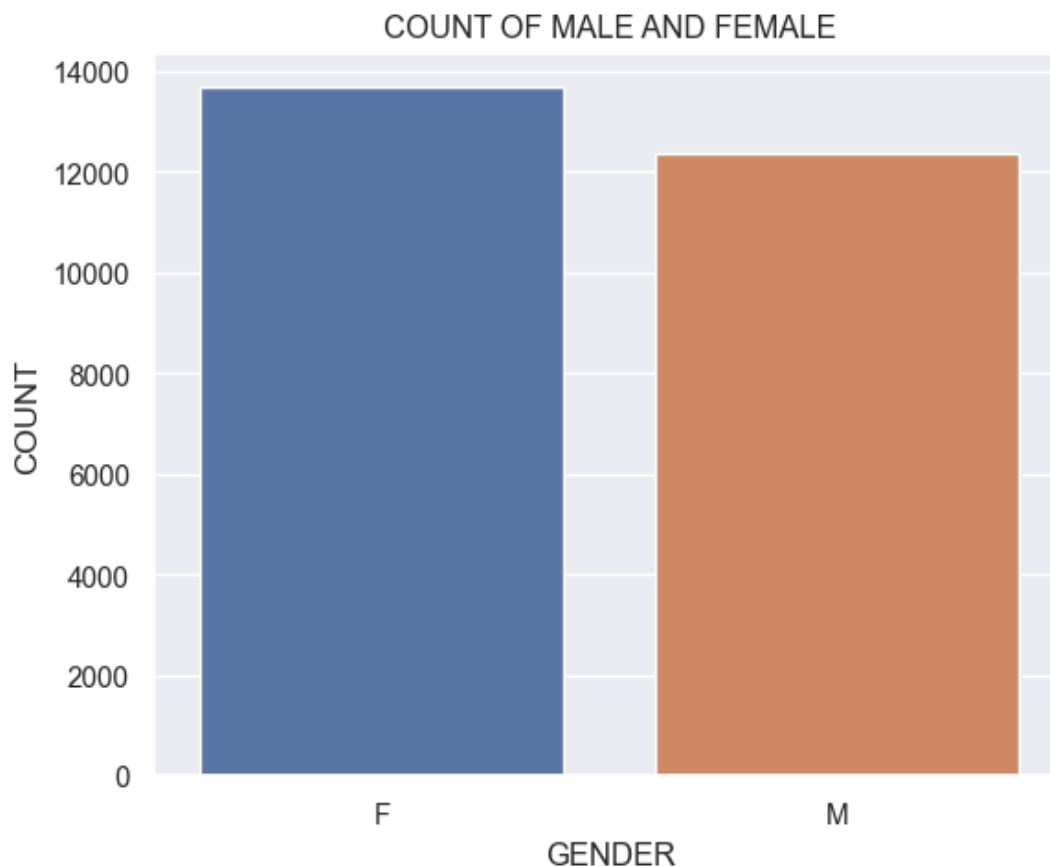
This dataset contains insights into a collection of credit card transactions made in India, offering a comprehensive look at the spending habits of Indians across the nation. From the Gender and Card type used to carry out each transaction, to which city saw the highest amount of spending and even what kind of expenses were made, this dataset paints an overall picture about how money is being spent in India today. With its variety in variables, researchers have an opportunity to uncover deeper trends in customer spending as well as interesting correlations between data points that can serve as invaluable business intelligence. Whether you're interested in learning more about customer preferences or simply exploring unbiased data analysis techniques, this data is sure to provide insight beyond what one could anticipate

Column name and their Description are :

- 1] City : The city in which the transaction took place. (String)
- 2] Date : The date of the transaction. (Date)
- 3] Card Type : The type of credit card used for the transaction. (String)
- 4] Exp Type : The type of expense associated with the transaction. (String)
- 5] Gender : The gender of the cardholder. (String)
- 6] Amount : The amount of the transaction. (Number)

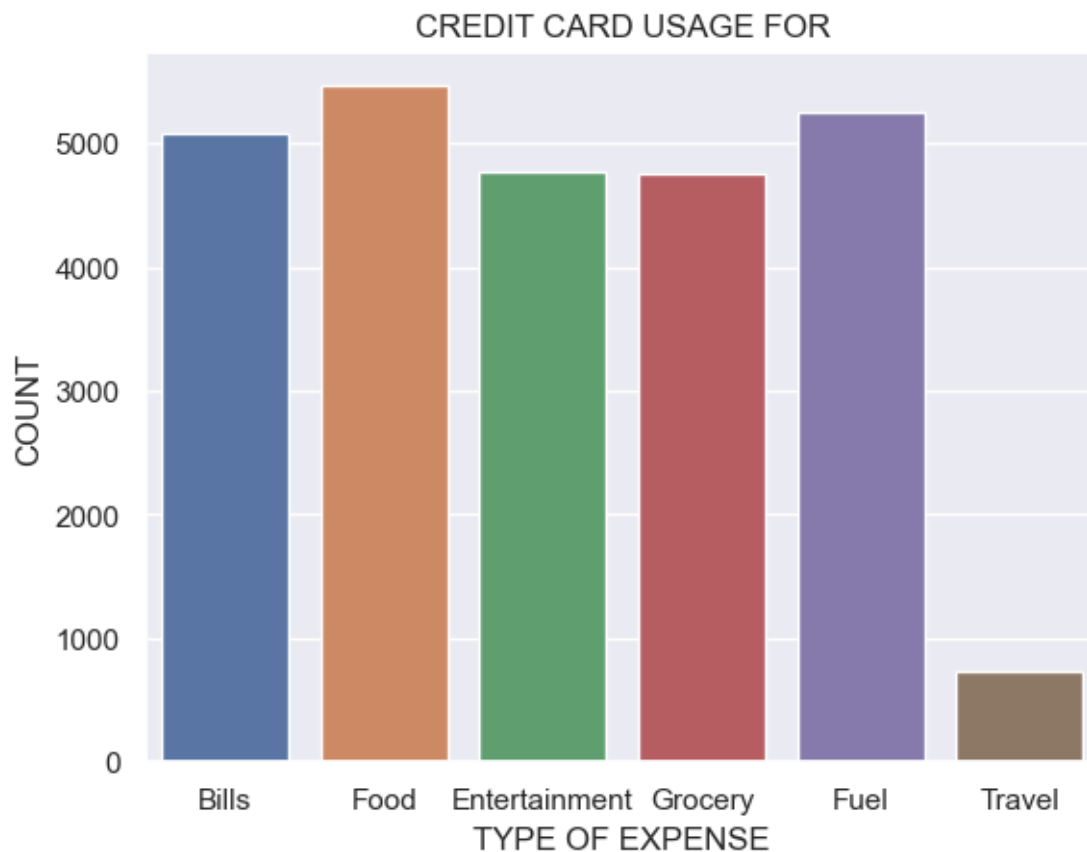
**Problem Statement :** Using the given dataset , we aim to address the following questions and provide insights and recommendations.

**1) Which gender has dominant usage of credit cards ?**



From the bar graph the dominant credit card users are females when compared to males.

2) For what purpose the credit cards are used more for transactions ?



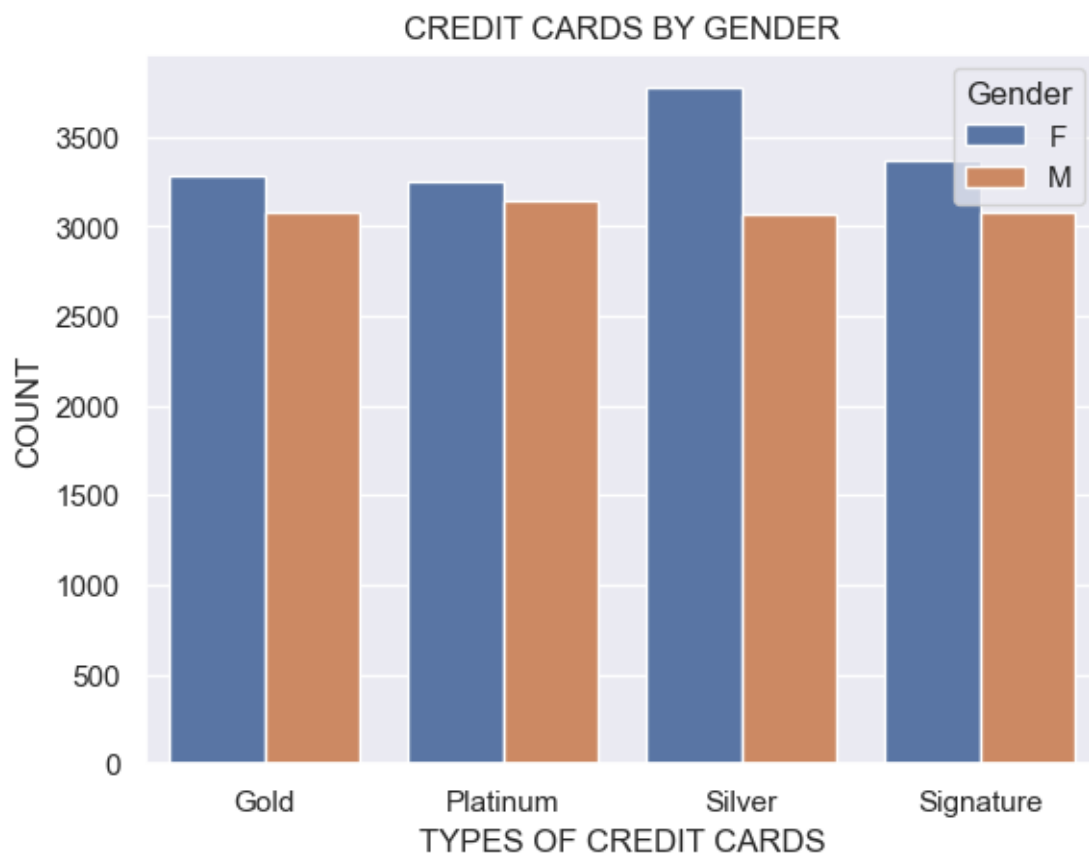
As observing the above distributive bar graph we can conclude that the most used expenses are for primarily “Food” then “Fuel” followed by bills, entertainment, grocery and travel.

3) Which type of credit card holder are greater in number ?



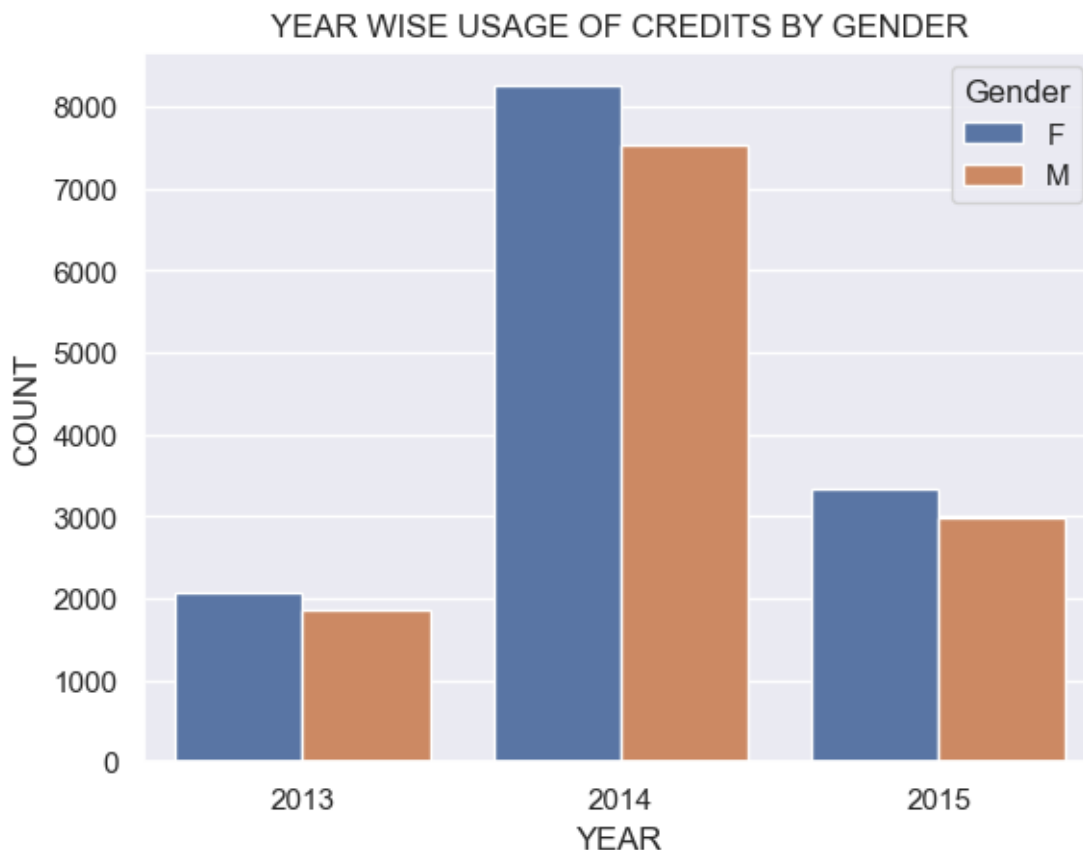
As observing the bar graph there are more number of 'SILVER' type credit card holders.

4) Mention the dominant gender in various types of credit card



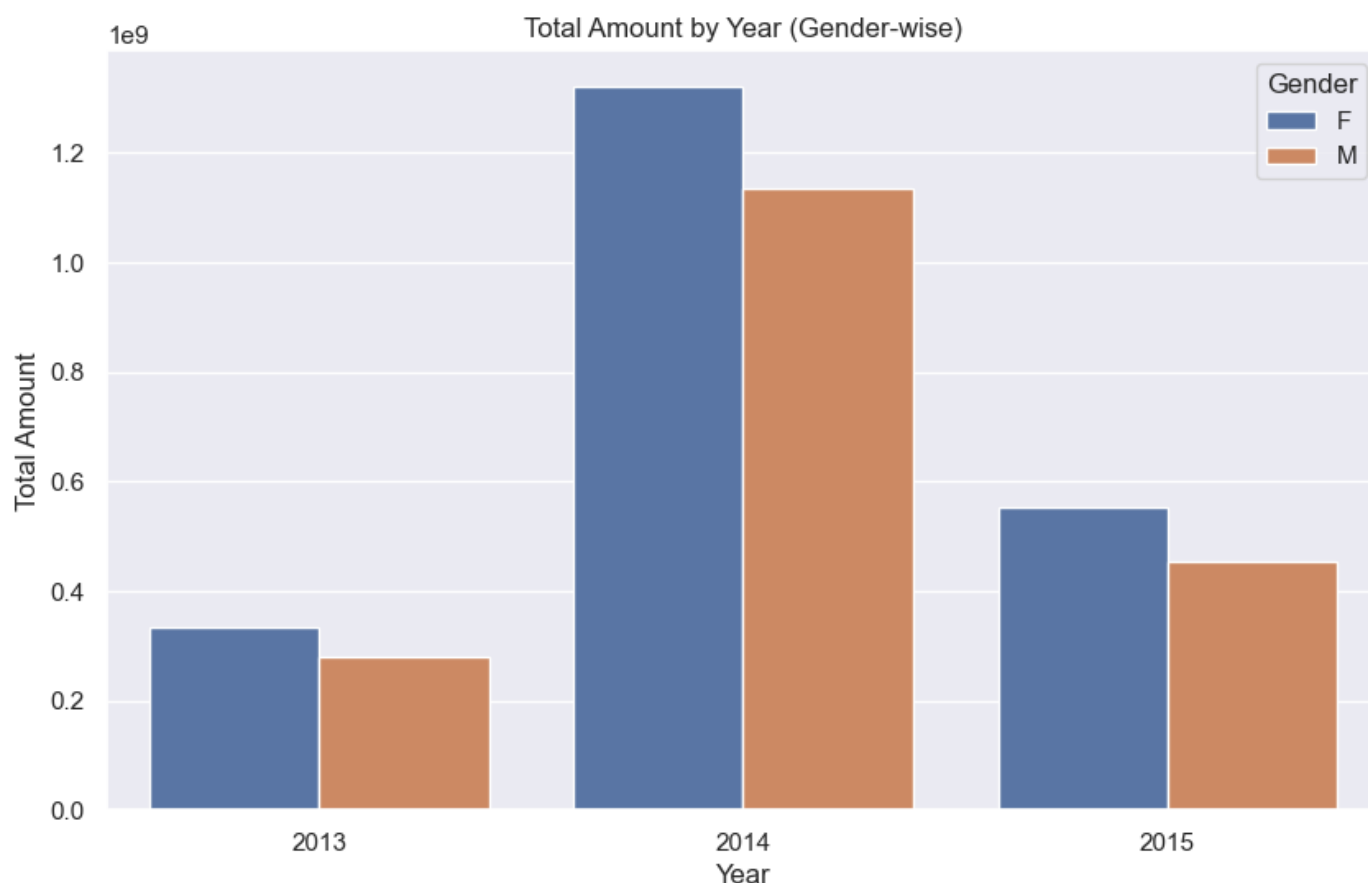
Amazingly ,from observing all types of credit cards namely gold , platinum , silver , signature the dominant gender is females than males

5) Comment on the year wise credits count based on gender classification .



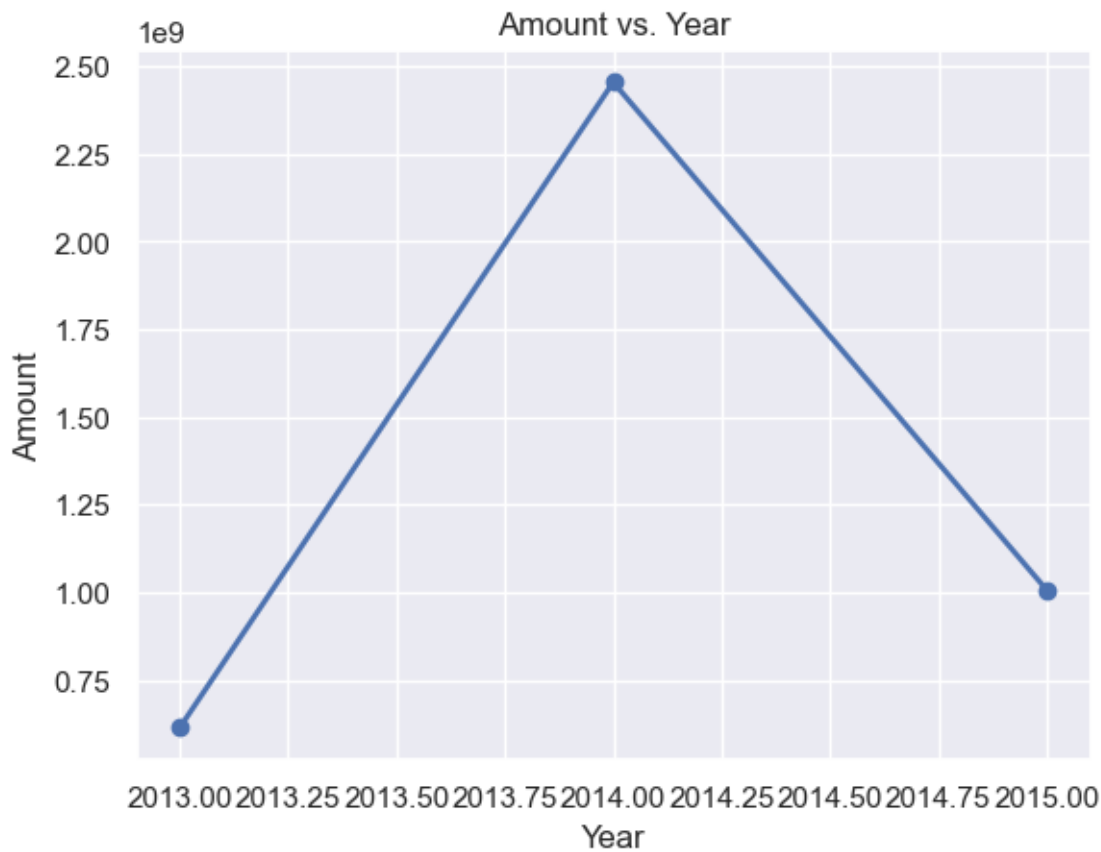
By these bargraph we can say in 2014 females are more than males but for 2013 and 2015 we dont have full data of every month but by seeing the above conclusion we can say females are more in every year.

6) Comment on the year wise credit amount transaction based on gender classification .



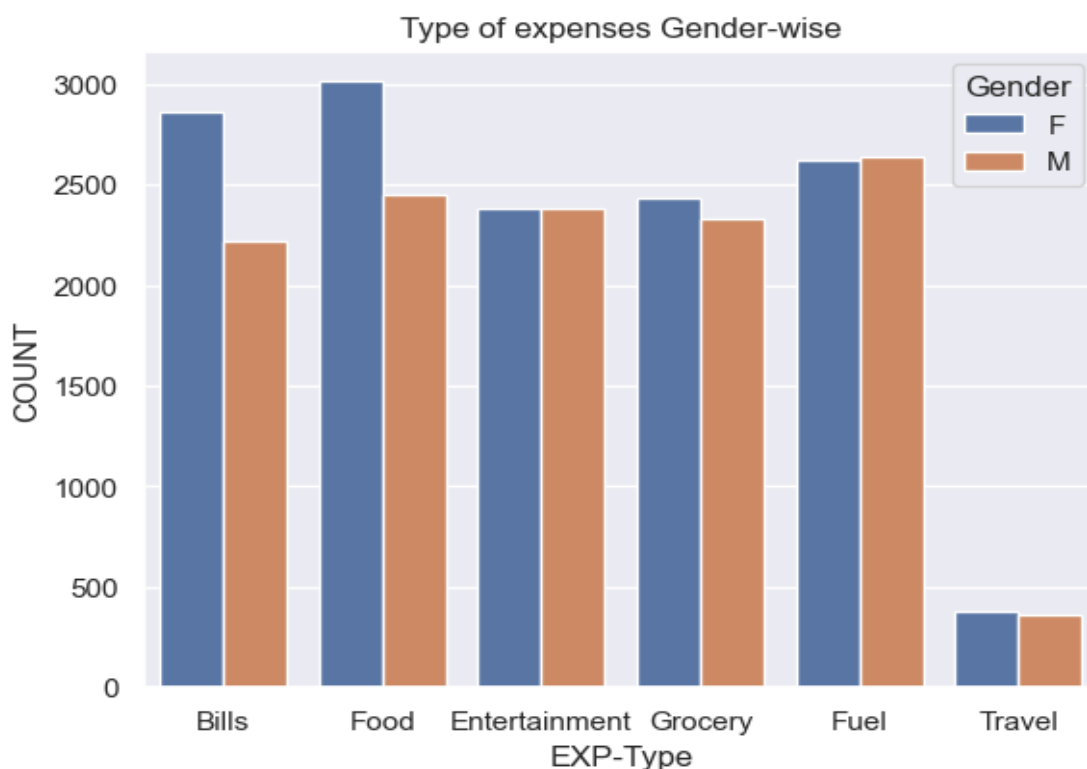
We see that females used a greater amount of credit than males in 2014 ,2013 and 2015

7) Compare the credit amount vs year of transaction



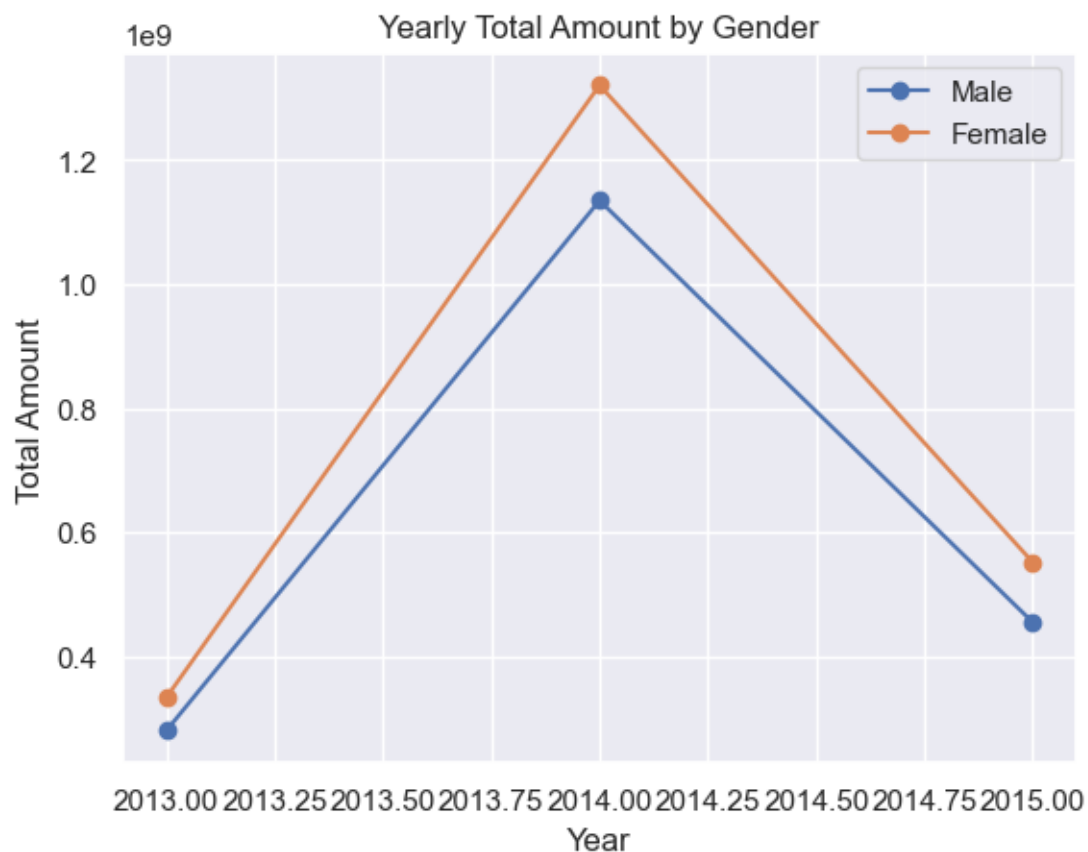
We can analyse that the credit amount has been linearly increased from 2013 to 2014 then later onwards it started to have a decent decline in the credit amount i.e from 2014 to 2015

8) In which type of usage the credit count of both genders match ?



To analyse this question we need the graph which classifies for count vs types of usages gender wise .In which Fuel and Entertainment are the usages where males and females are equally used credit card

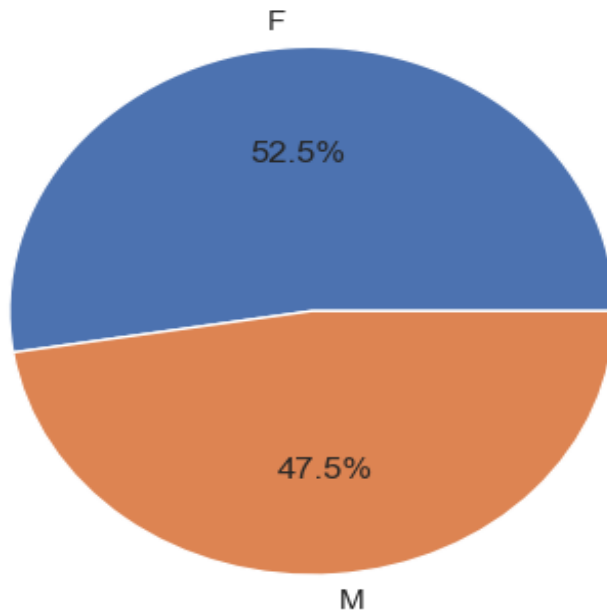
9) Classify the amount spent based on gender year wise



The amount made in transaction is more by female than male in every year

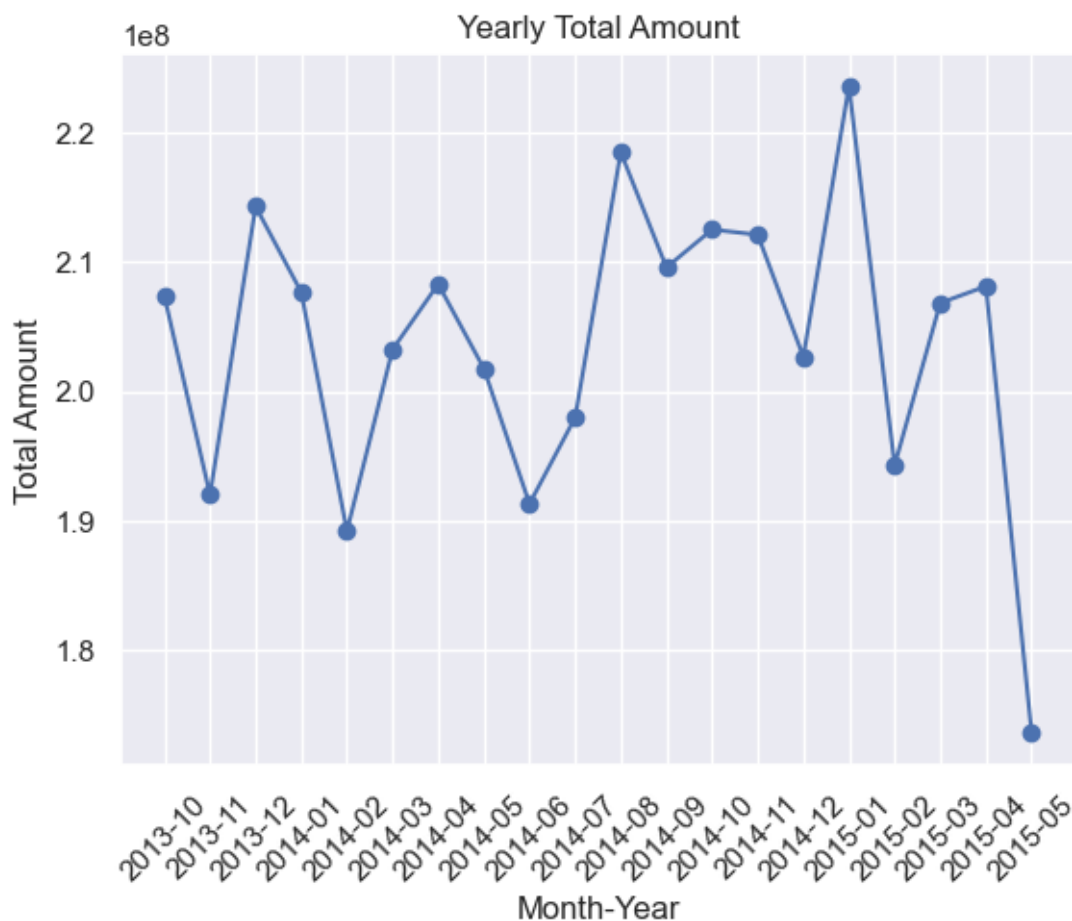
10) Display the percentages of credit count gender based





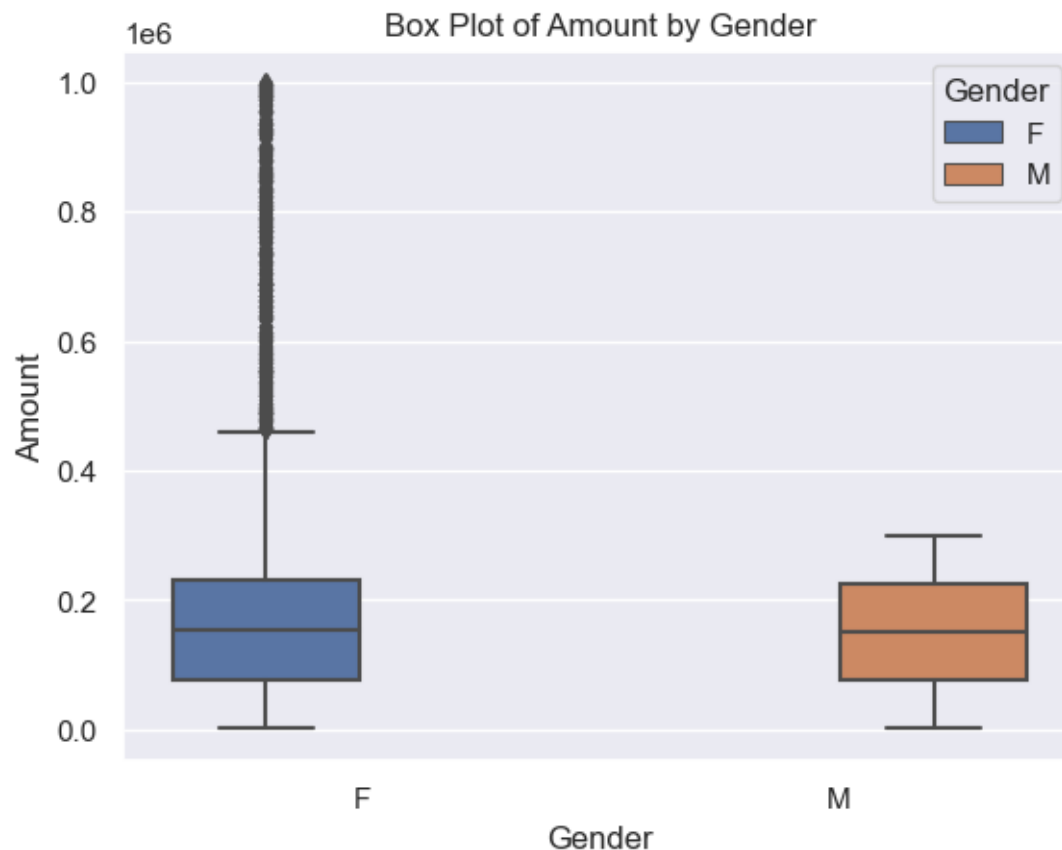
The percentages are accordingly 52.5 % females and 47.5 % males

11) Identify the highest month and year in which the amount of transaction is highest ?



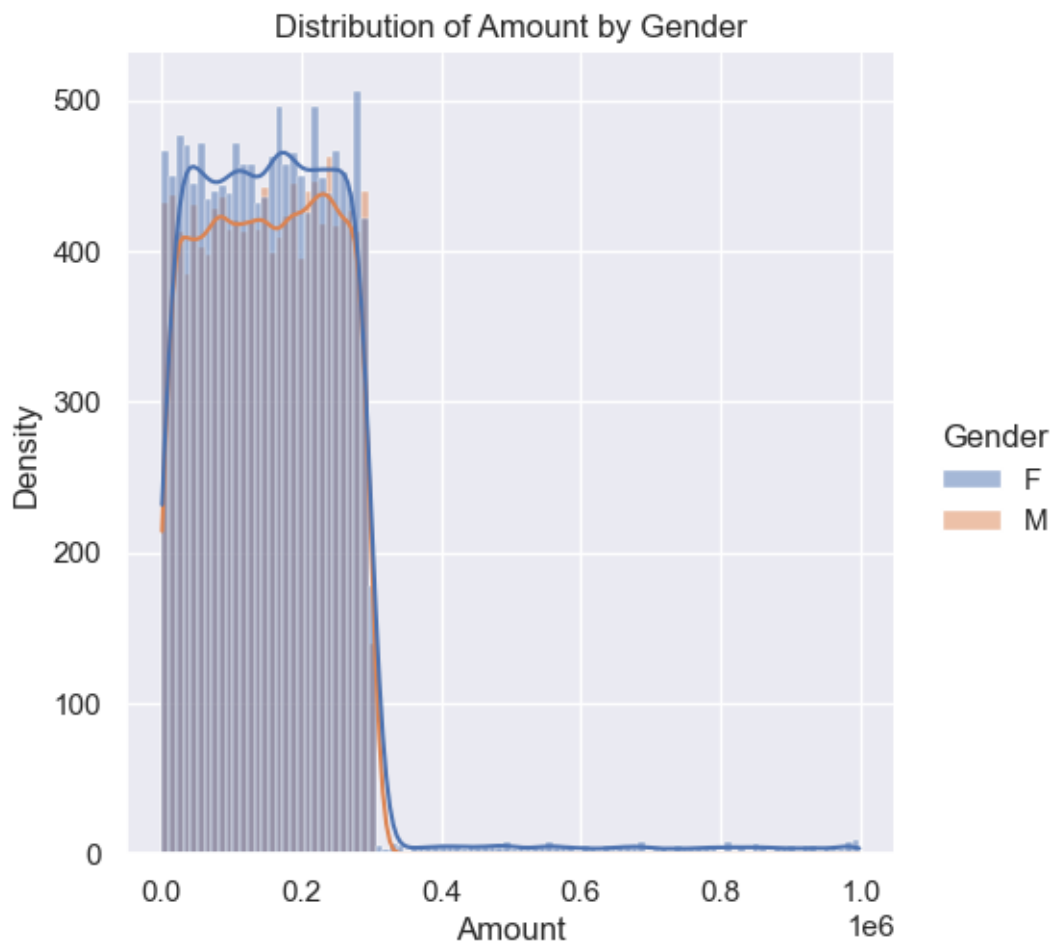
From observing the above graph we can conclude that in the month of January of 2015 the highest amount of transaction is done .

- 12) Depict the box plot of amount by gender and find who spends under IQR range ?

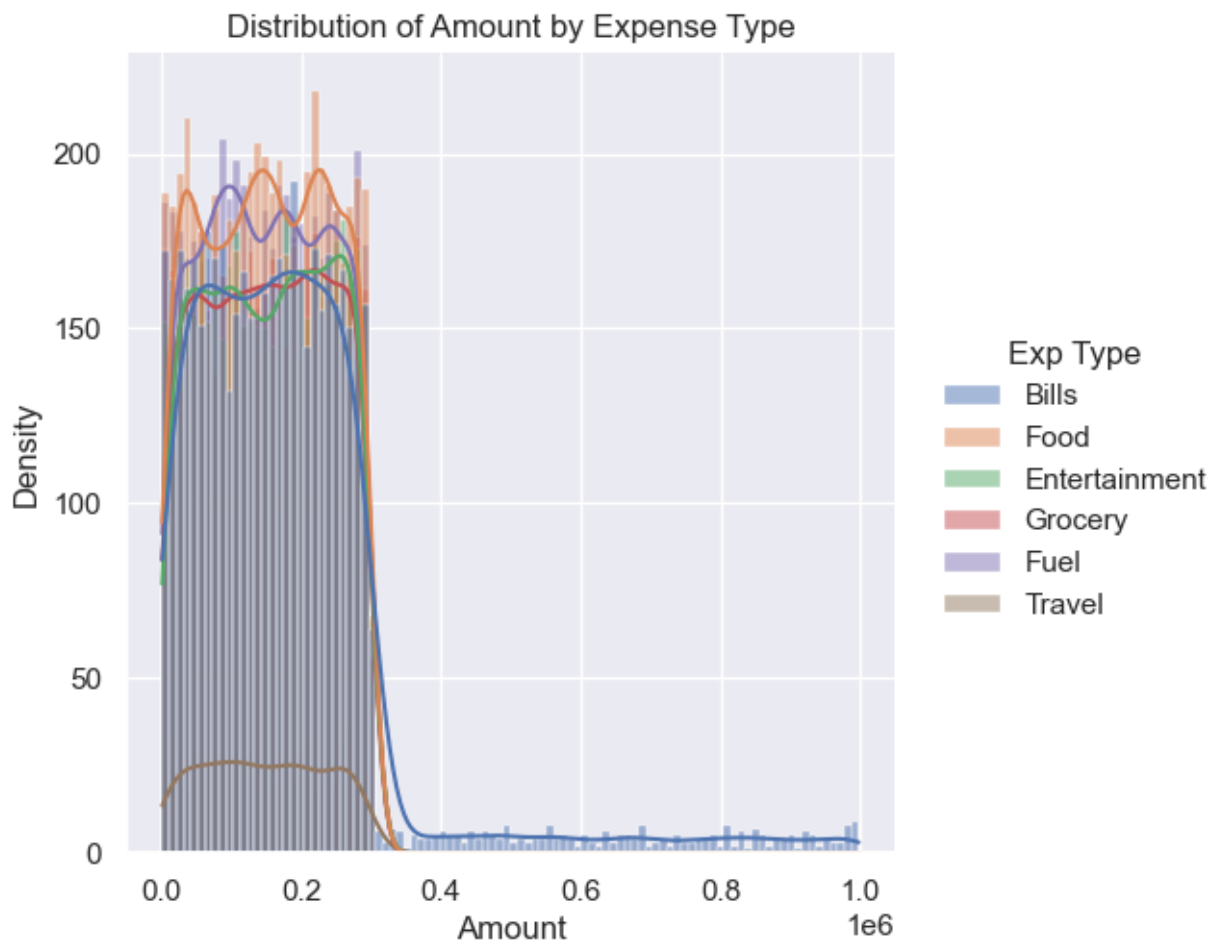


Males amount spent is with in IQR range but females spent more than IQR range

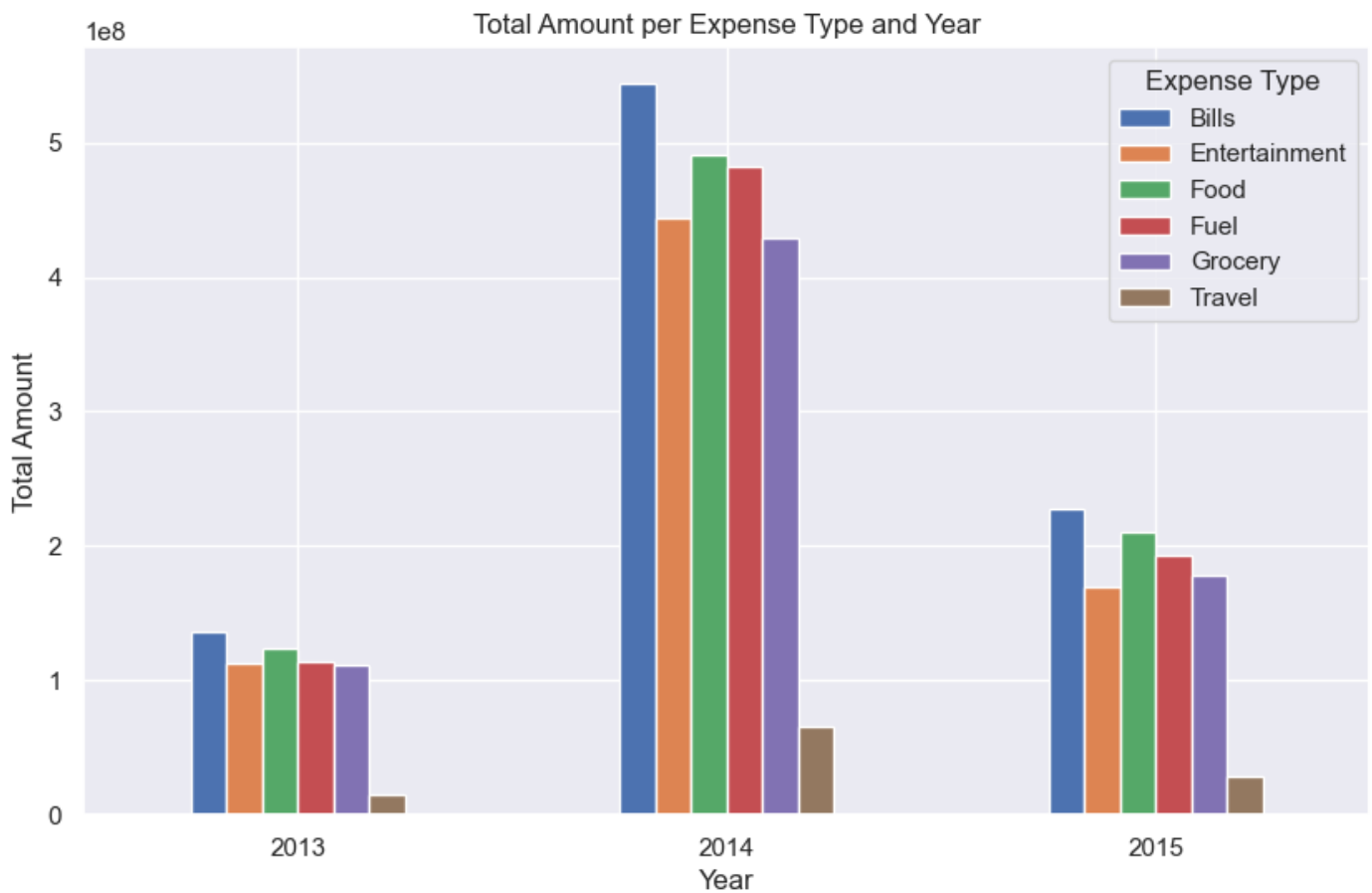
- 13) Distribute the amount by gender usage and find their density .



14) Distribute the amount by expense type and find their density accordingly .

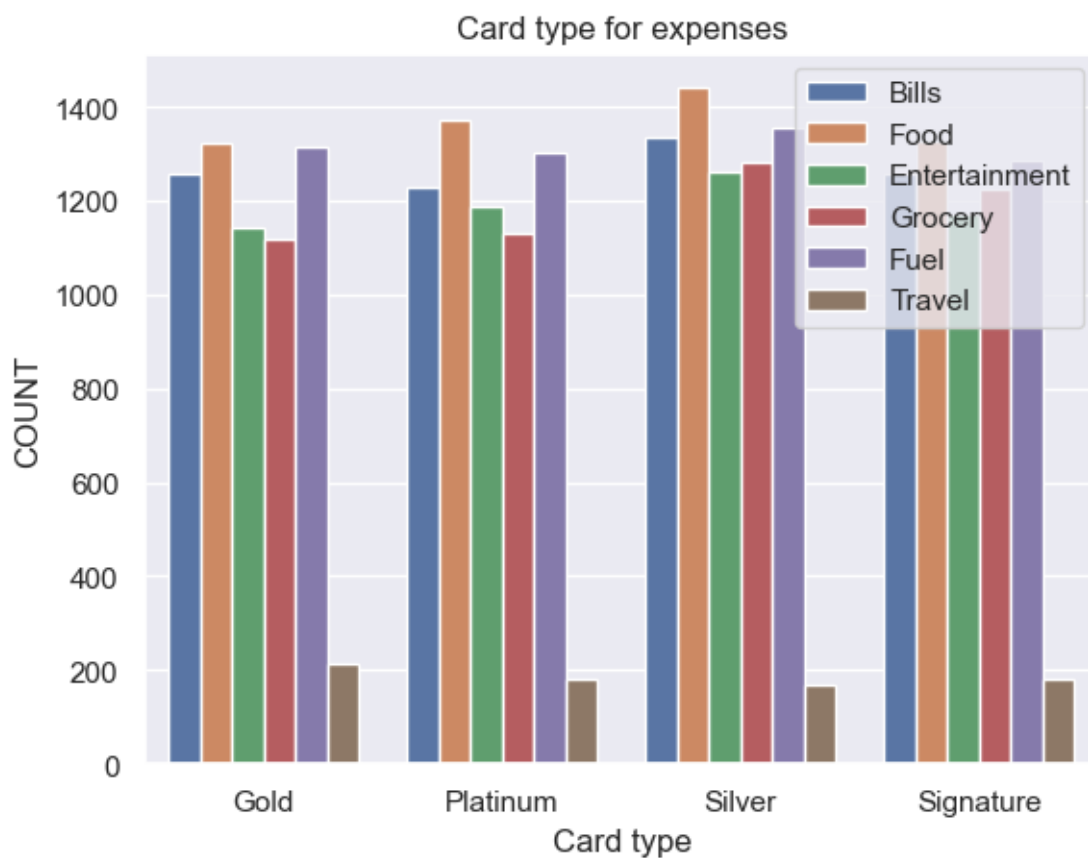


15) Find which type of expense makes the dominant transaction in every year?



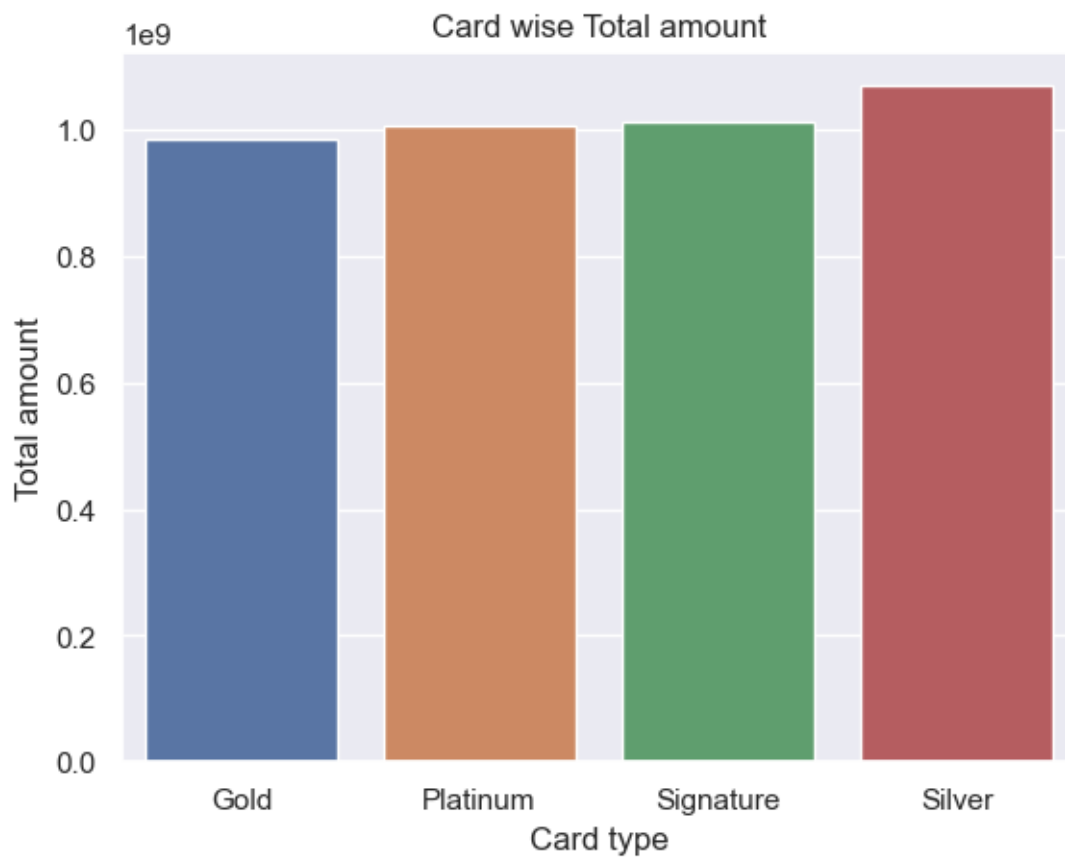
**Bills make more amount in every year**

16) Classify the most used expense year wise according to credit card types.



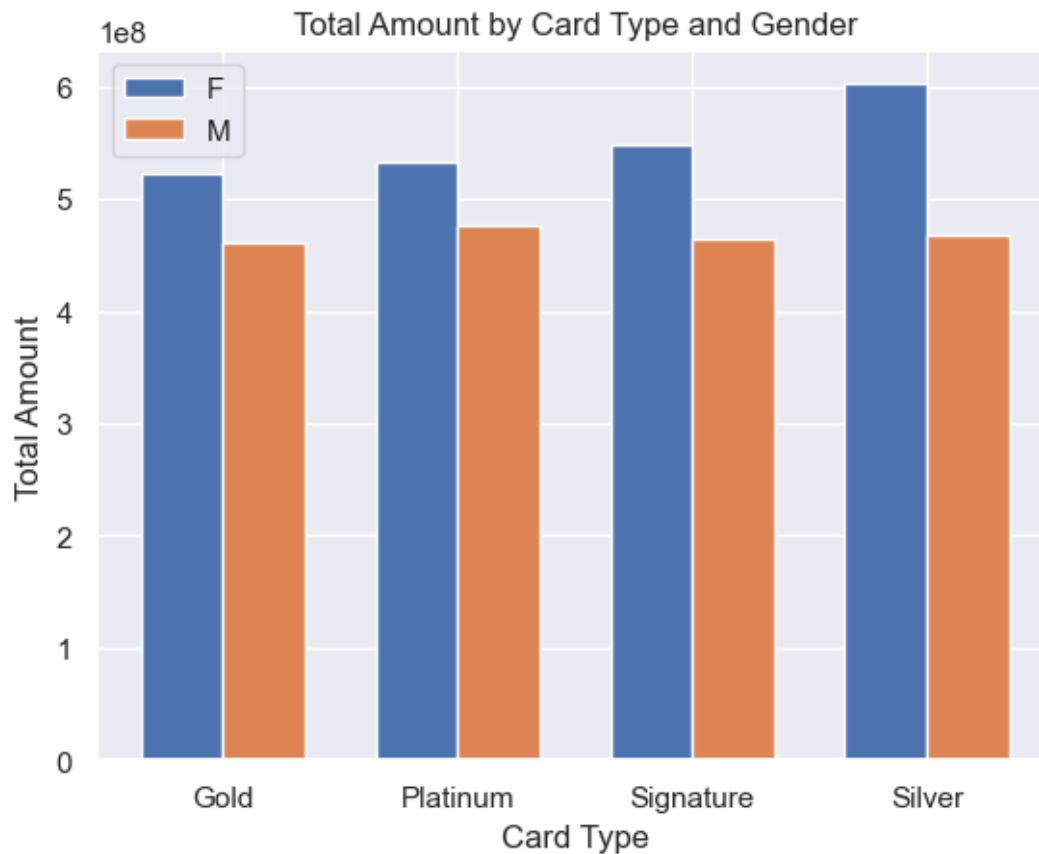
All cards are more used for food

17) Which type of credit card is used for maximum transactions ?



The amount from sliver card is more than other cards

18) Depict the graph of total amount by card type and gender .



As observed in every type of card the dominant gender is females over males

### Conclusions :

1. **Spending Patterns:** The analysis could reveal different spending patterns of credit card users, such as frequent expenditures on certain categories like food, bills, travel, or entertainment.
2. **Gender pattern:** females have a very high dominant usage regarding credit count and the amount of transactions in every year and also in type of credit card issued than males.



3. Type of usage: among all the expenses food is a dominant type of usage in which highest amount of credit amount is transaction is done, where as travel as an lower expenses when compared to others.

### Suggestions:

1. Credit Limit Adjustment: Based on spending patterns and credit utilization, consider adjusting credit limits for customers to prevent over-extension of credit and enhance their financial management.
2. Targeted Marketing: Utilize customer segmentation insights to tailor marketing campaigns and offers to specific customer groups, increasing the chances of successful conversions.
3. Payment Reminders: Implement automated payment reminders to encourage timely payments and reduce late payment instances.
4. Reward Program Optimization: Analyze the effectiveness of the existing reward program and make adjustments to better align rewards with customer preferences and behaviors.

5. **Credit Risk Mitigation:** Identify high-risk customers based on historical data and implement risk mitigation strategies like reducing credit limits, offering credit counseling, or proactive communication to avoid defaults.
6. **Customer Retention Strategies:** Develop personalized retention strategies for different customer segments to improve customer loyalty and reduce churn rates.