

Analysing Customer Movie Rentals

Patterns and Preferences



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Introduction and Background

Due to uncertainties, there is a strong need to emphasize on the exploration of rental patterns and customer preferences.

- ❖ This is crucial for improving customer engagement
- ❖ It will optimize company's inventory management

RBSter is traditional DVD rental store that has transitioned to an online rental service.

- ❖ There is a strong shift in consumer behaviour towards online media consumption
- ❖ How this affects rental business needs to be studied and understood



Challenge and Motivation

Challenge

- ❖ RBSter faces competitive pressure from streaming platforms and other entertainment services
- ❖ There are difficulties in maintaining customer interest and loyalty in a highly competitive market

Motivation

Urgently needed is a data-driven approach to:

- ❖ Understand the market trends, take the best positions
- ❖ Predict customer behaviours, stay competition ready

Consequently, insights from data are needed to:

- ❖ Ensure a better stock management
- ❖ Target marketing campaigns, and
- ❖ Improve customer services



Aim and Objectives

Aim

- ❖ To visualize trends and extract actionable insights about customer preferences and rental patterns

Objectives

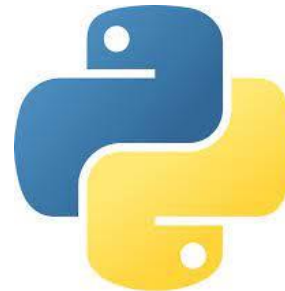
- ❖ Identify the most rented movies and understand rental frequency per customer
- ❖ Analyse rental duration trends and identify peak rental periods

Methodology

Approach:

I extracted data from the rental, customer, inventory, and film tables in the database of RBSter. The PostgreSQL queries I produced fetched me the necessary data based on:

- ❖ The frequency of rentals
- ❖ Associated customer details, and
- ❖ Film titles and their respective dates



Tools used:

- ❖ PostgreSQL for database querying
- ❖ Excel for data pre-cleaning and check
- ❖ Python for exploratory data analysis
- ❖ Tableau for visualising insights and patterns



Methodology

This is the PostgreSQL code I used:

```
SELECT
    c.customer_id,
    c.first_name,
    c.last_name,
    f.title AS film_title,
    COUNT(r.rental_id) AS rental_count,
    EXTRACT(YEAR FROM r.rental_date) AS rental_year,
    EXTRACT(MONTH FROM r.rental_date) AS rental_month,
    EXTRACT(DAY FROM r.rental_date) AS rental_day
FROM rental r
JOIN inventory i ON r.inventory_id = i.inventory_id
JOIN film f ON i.film_id = f.film_id
JOIN customer c ON r.customer_id = c.customer_id
GROUP BY c.customer_id, f.title, EXTRACT(YEAR FROM
r.rental_date), EXTRACT(MONTH FROM r.rental_date),
EXTRACT(DAY FROM r.rental_date)
ORDER BY c.customer_id, rental_count DESC;
```

Code Explanation:

- ❖ I joined four tables — rental, inventory, film, and customer — to consolidate information on which films are being rented by which customers
- ❖ I aimed at aggregating data to count the number of times each film is rented by each customer to have an idea of popular films and active customers
- ❖ I included year, month, and day from the rental date to help analyse trends over time

Key Questions (Qs)

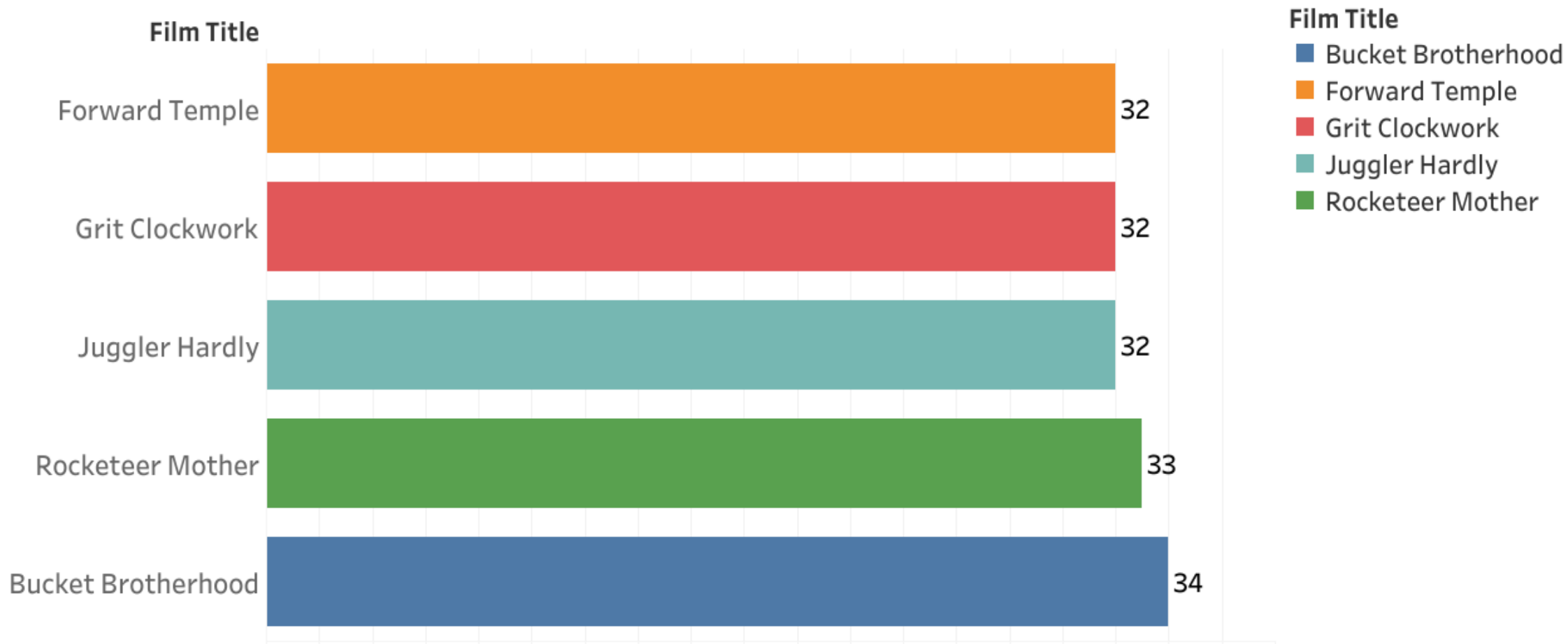
The key questions to address are:

- ❖ Identify the five most rented movies
- ❖ Identify the least five rented movies
- ❖ What are the rental frequencies of the five top customers?
- ❖ Analyse rental duration trends, what insights are therein?



Results

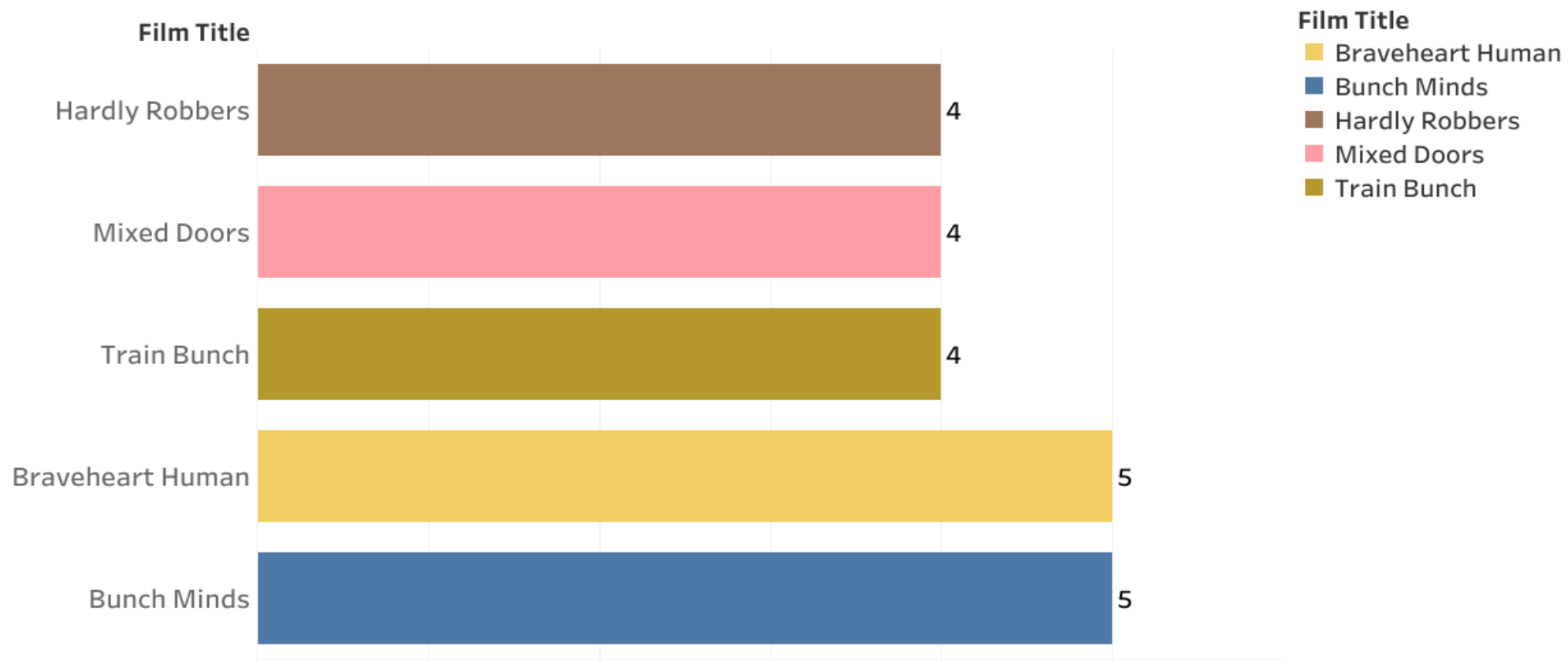
Q1: Identify the five most rented movies



❖ Some movies attract more sales than others; endeavour to keep them in stock always

Results

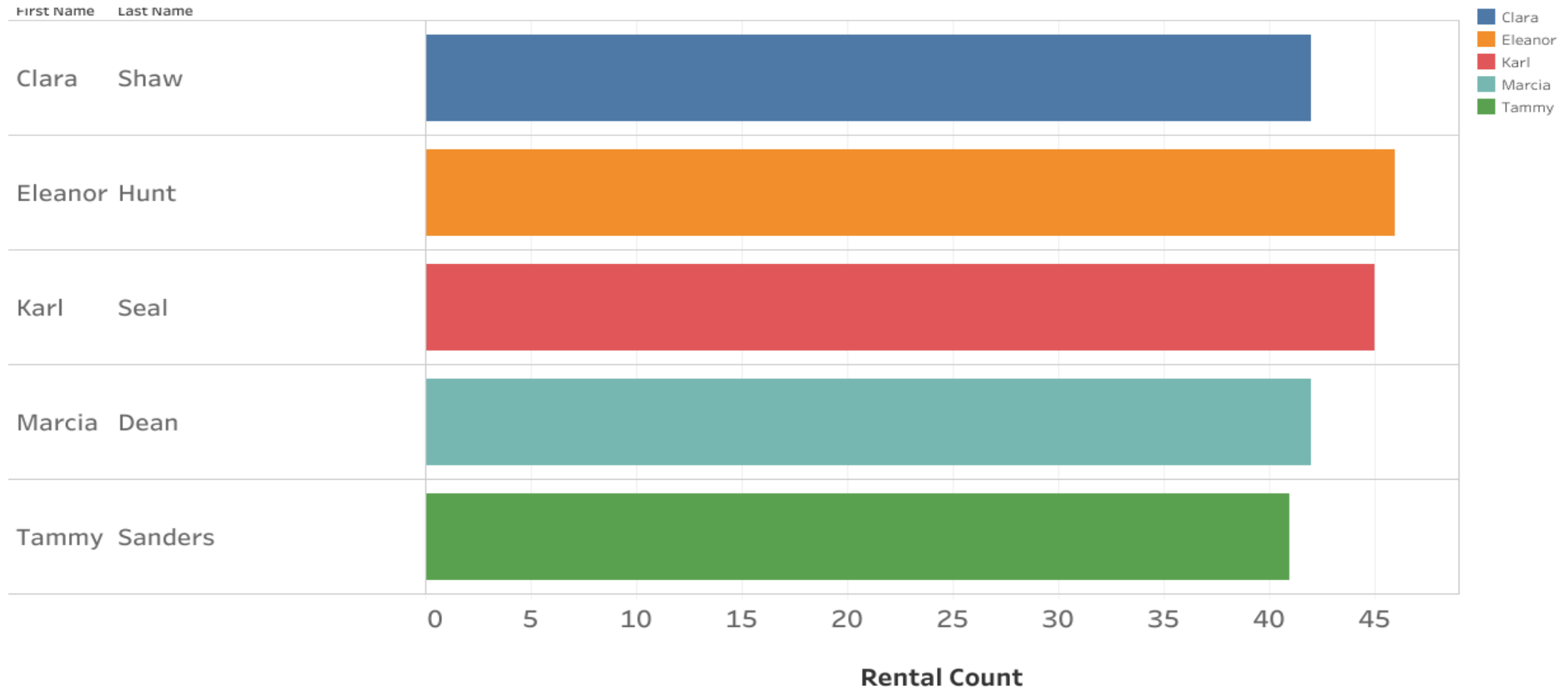
Q2: Identify the five least rented movies



❖ Some movies attract less view; change to more sales attracting and converting movies

Results

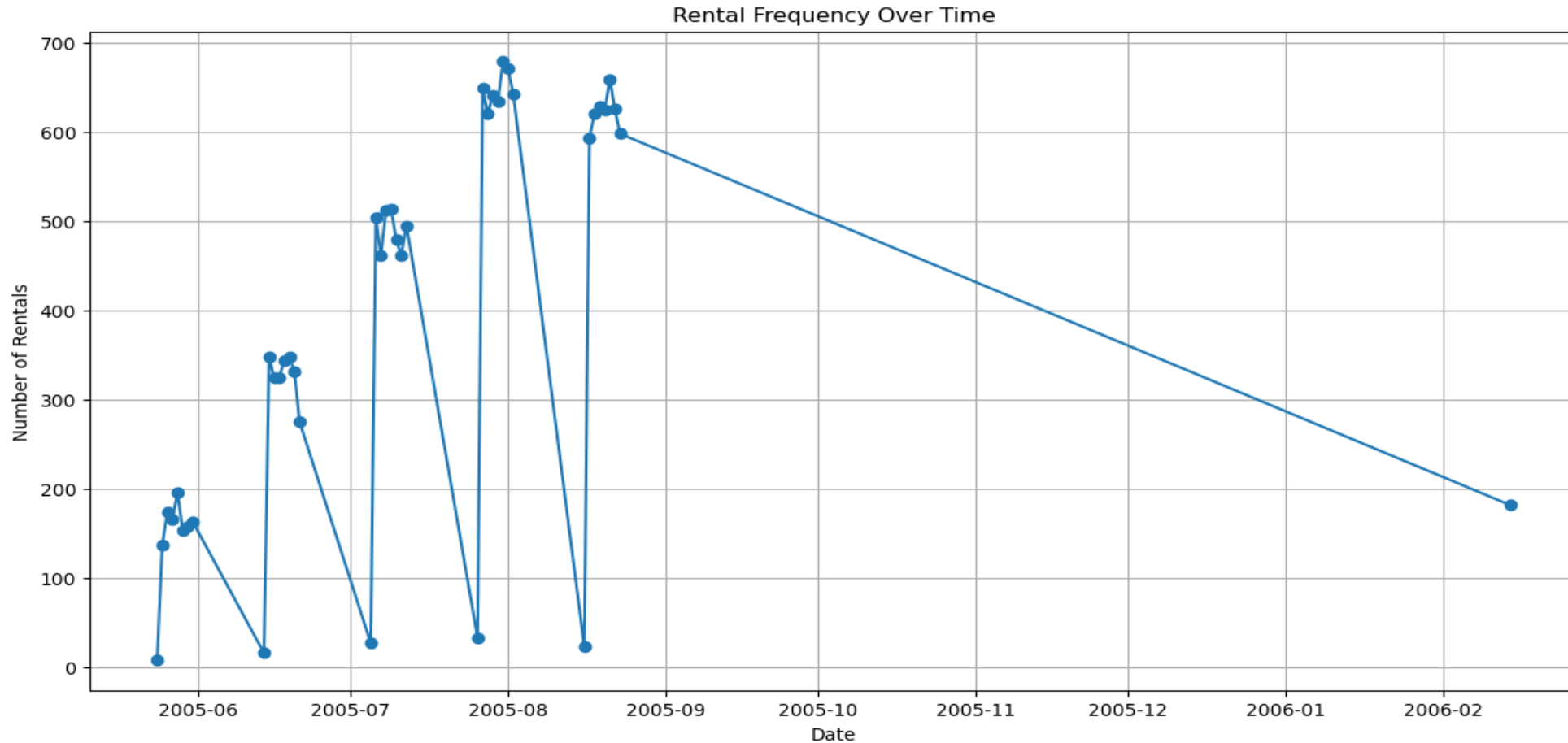
Q3: What are the rental frequencies of the five top customers?



- ❖ Eleanor Hunt (46) > Karl Seal (45) > Clara Shaw/Marcia Dean (42) > Tammy Sanders (41)
- ❖ Endeavour to keep and maintain these highly loyal customers

Results

Q4: Analyse rental duration trends, what insights are therein?



❖ Rentals occurred from February to August 2005, with the majority in July and August, and with a sharp decline from September 2005 into February 2006.

Conclusions

- ❖ **The top rented movies like Bucket Brotherhood and Rocketeer Mother suggest that certain titles have broad appeal; they attract customers and drive rental volume. Focus on similar movies**
- ❖ **Movies like Mixed Doors and Train Bunch have significantly lower rental counts; they have a less overall appeal. Ignore similar movies**
- ❖ **Customers such as Eleanor Hunt and Karl Seal are highly loyal customers; endeavour to keep them through compensations and remunerations**
- ❖ **Rental activity peaks in the summer months, particularly in July and August, and drops off towards the year-end; it shows a seasonal pattern that likely correlates with customer vacation times or leisure periods. Make lots of movies available is summertime**

Recommendations

- ❖ **Focus on enhancing marketing for popular films and develop loyalty programs aimed at frequent renters to maximize engagement.**
- ❖ **Tailor inventory and promotional strategies to align with seasonal rental patterns, boosting demand during peak and off-peak periods.**