**Udacity –sql-project**

**Date created** : 03/05/2020

**Project Title:** **INVESTIGATE A RELATIONAL DATABASE**

**Description:**

I used SQL to explore a database related to movie rentals. I wrote SQL code to run SQL queries and answer questions about the database.

The project end-result is a presentation of four slides. Each slide

: ● Has a question of interest

. ● Has a supporting SQL query needed to answer the question

. ● Has a supporting visualization created using the final data of my SQL query that answers my question of interest.

The four questions of interest are:

● \*What are the most successful categories among the family movies ?

\* ● What is the distribution of family-friendly movies among the film categories and rental duration categories ?

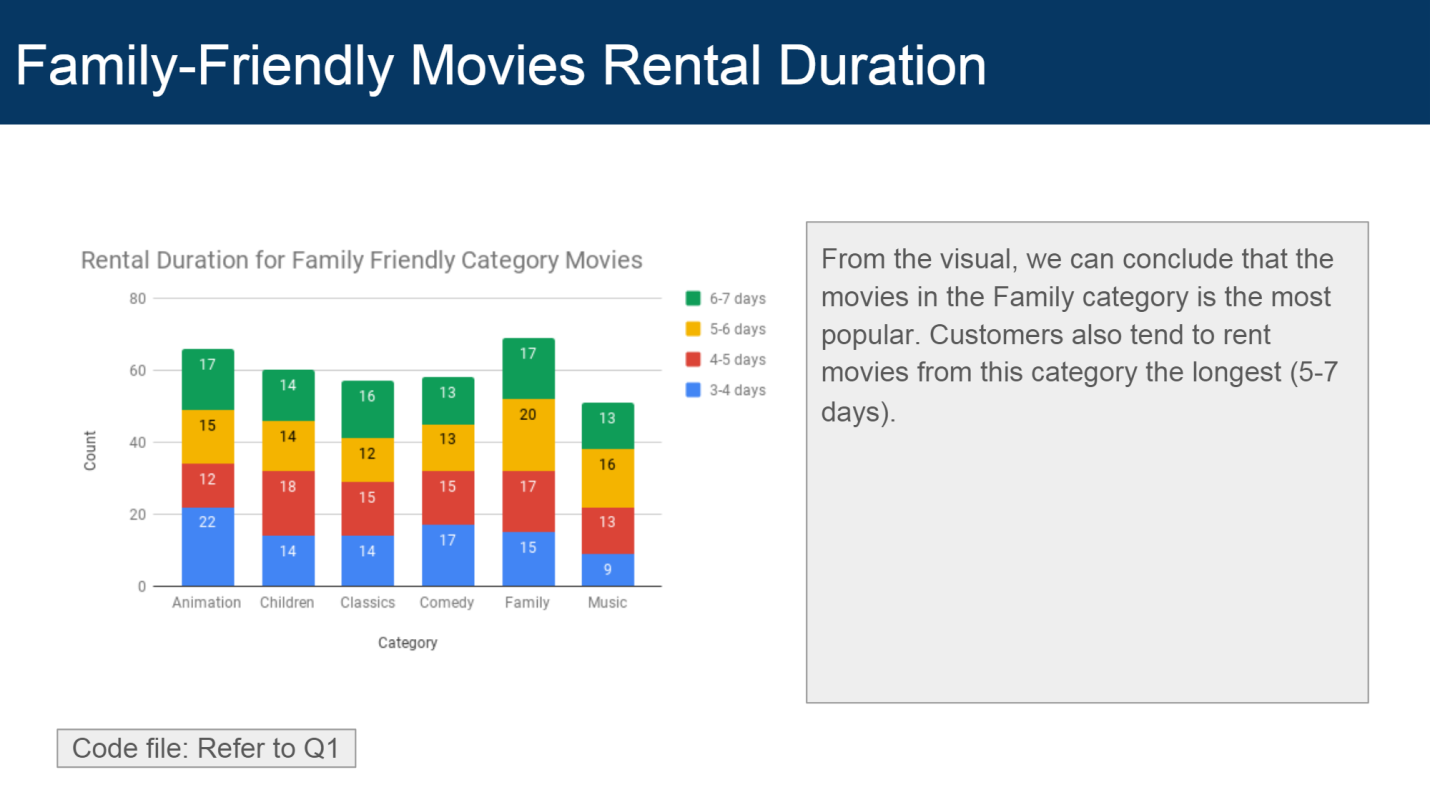
● How does the two stores compare in their count of rental orders ?

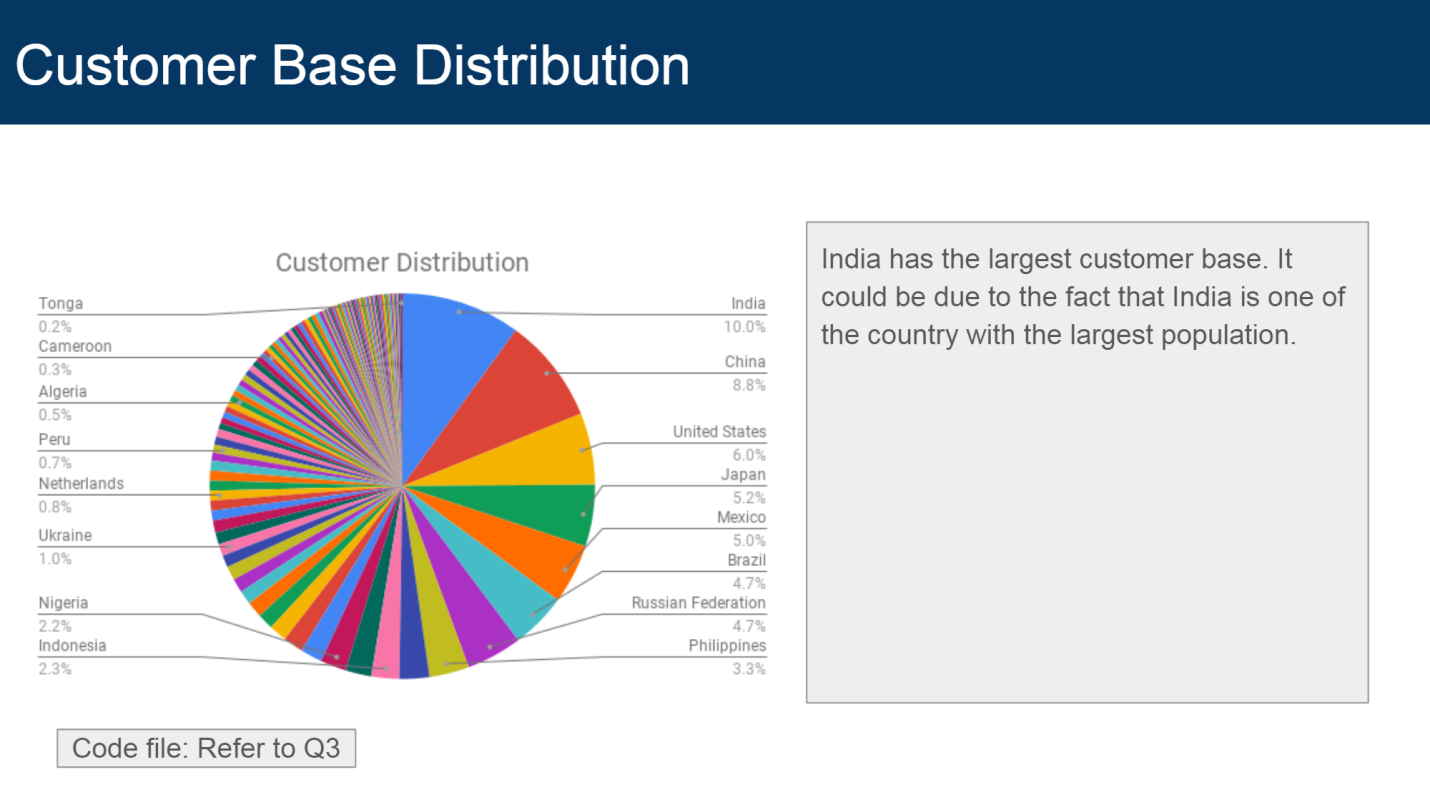
● Who are the top 10 paying customers ?

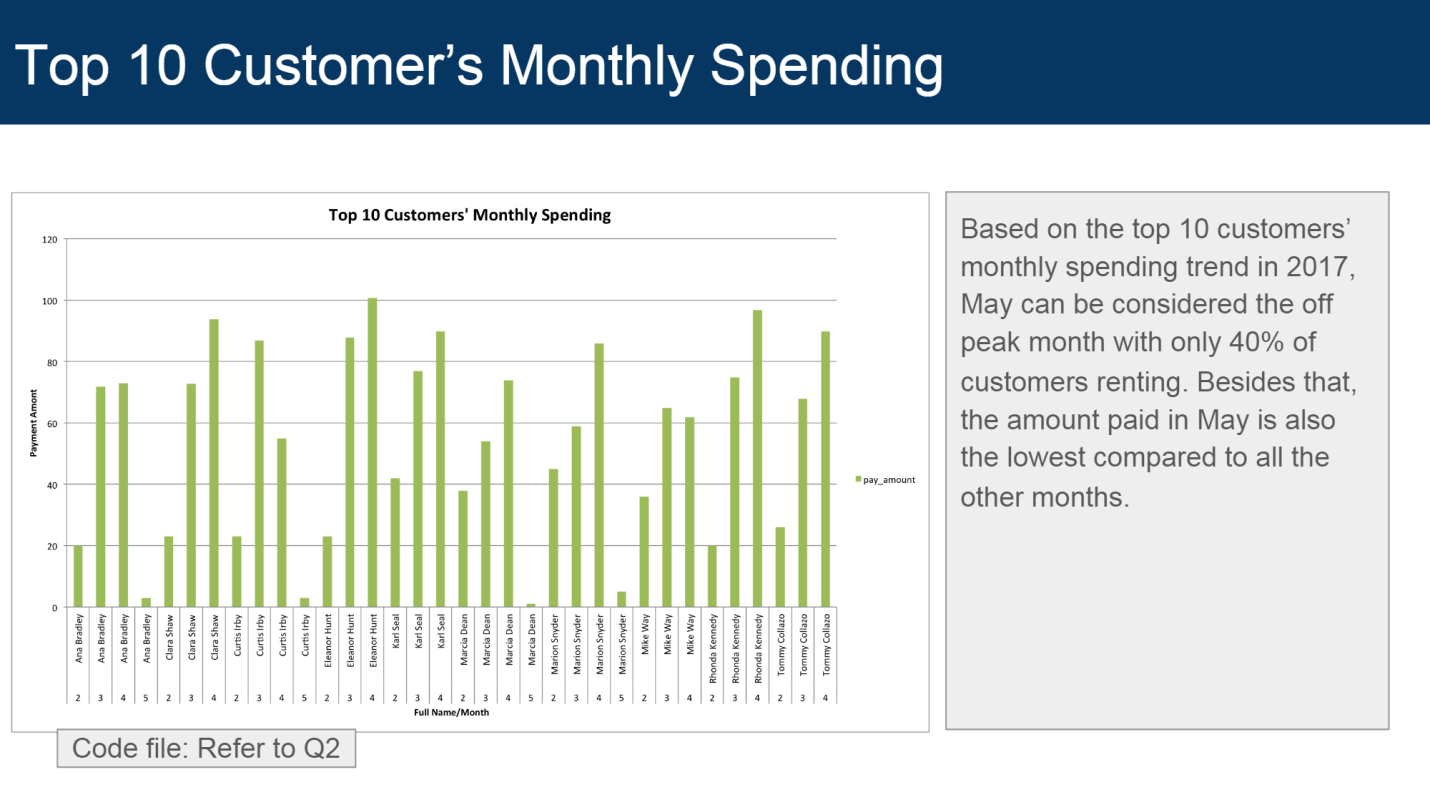
How many did each paid in total ?

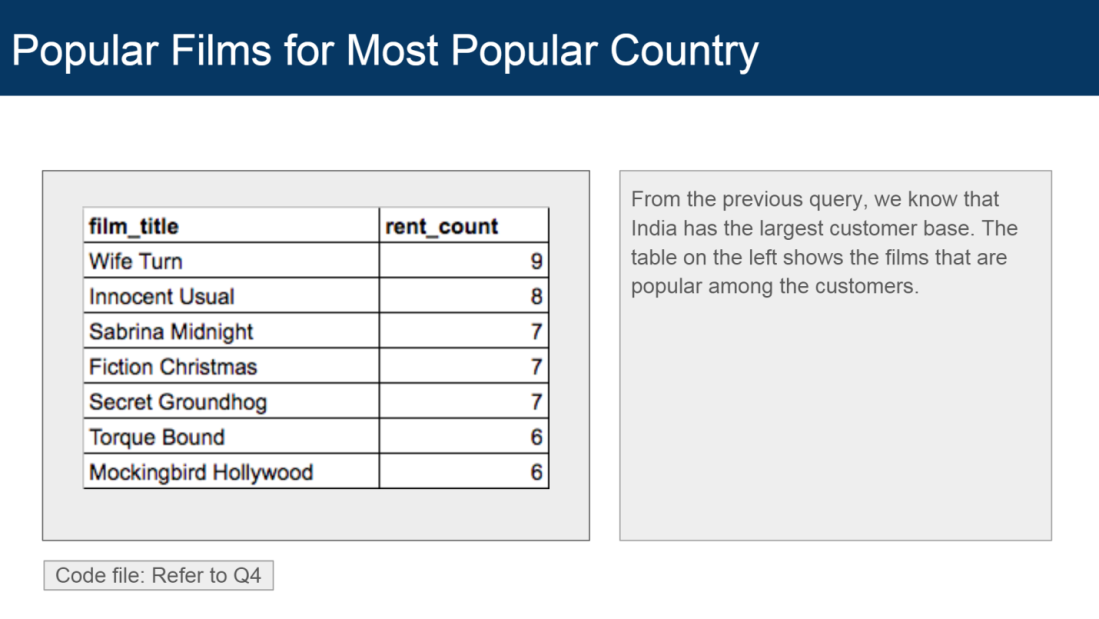
**Credits:**

Thanks to the Udacity team for this great project!









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| /\*Questions solutions\*/ | |
|  | |  | |
|  | | /\* Q1 - What is the number of movies in each family-friendly category?\*/ | |
|  | | WITH | |
|  | | updated\_cats AS | |
|  | | (SELECT fc.film\_id, c.name | |
|  | | FROM film\_category fc | |
|  | | JOIN category c | |
|  | | ON c.category\_id = fc.category\_id), | |
|  | | updated\_qrental AS | |
|  | | (SELECT DISTINCT f.title AS film\_title, uc.name, f.rental\_duration, ntile(4) OVER | |
|  | | (PARTITION BY f.rental\_duration) AS standard\_quartile | |
|  | | FROM film f | |
|  | | JOIN updated\_cats uc | |
|  | | ON uc.film\_id = f.film\_id | |
|  | | WHERE uc.name IN ('Family', 'Children', 'Music', 'Animation', 'Comedy','Games') | |
|  | | ORDER BY 4,3) | |
|  | |  | |
|  | | SELECT name, count(\*) | |
|  | | FROM updated\_qrental | |
|  | | GROUP BY 1 | |
|  | | ORDER BY 2; | |
|  | |  | |
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|  | | /\* Q2 - What is the number of rental orders for each store per month?\*/ | |
|  | | SELECT Date\_TRUNC('month', r.rental\_date) Rental\_month, i.store\_id, COUNT(\*) Count\_rentals | |
|  | | FROM rental r | |
|  | | LEFT JOIN inventory i | |
|  | | ON i.inventory\_id = r.inventory\_id | |
|  | | GROUP BY 1,2 | |
|  | | ORDER BY 3 DESC; | |
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|  | | /\* Q3 - What is the number total number of rentals for the top 10 customers based on the highest rental orders per month?\*/ | |
|  | |  | |
|  | | WITH | |
|  | | top\_10 AS | |
|  | | (SELECT c.customer\_id, CONCAT (c.first\_name, ' ', c.last\_name) fullname, COUNT(\*) pay\_countpermon, SUM(p.amount) | |
|  | | FROM payment p | |
|  | | JOIN customer c | |
|  | | ON p.customer\_id = c.customer\_id | |
|  | | GROUP BY 1,2 | |
|  | | ORDER BY 3 DESC, 2 | |
|  | | LIMIT 10) | |
|  | |  | |
|  | | SELECT fullname, SUM(pay\_countpermon) | |
|  | | FROM (SELECT DATE\_TRUNC('month', p.payment\_date) pay\_mon, t.fullname, COUNT(DATE\_TRUNC('month', p.payment\_date)) pay\_countpermon, SUM(p.amount) | |
|  | | FROM payment p | |
|  | | JOIN top\_10 t | |
|  | | ON p.customer\_id = t.customer\_id | |
|  | | GROUP BY 1,2 | |
|  | | ORDER BY 2,3 DESC) sub | |
|  | | GROUP BY 1 | |
|  | | ORDER BY 2 DESC; | |
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|  | | /\* Q4 - Who are the customers with highest difference in rental orders from a month to another?\*/ | |
|  | | WITH | |
|  | | top\_10 AS | |
|  | | (SELECT c.customer\_id, CONCAT (c.first\_name, ' ', c.last\_name) fullname, COUNT(\*) pay\_countpermon, SUM(p.amount) total\_rents | |
|  | | FROM payment p | |
|  | | JOIN customer c | |
|  | | ON p.customer\_id = c.customer\_id | |
|  | | GROUP BY 1,2 | |
|  | | ORDER BY 3 DESC, 2 | |
|  | | LIMIT 10) | |
|  | |  | |
|  | | SELECT DATE\_TRUNC('month', p.payment\_date) pay\_mon, t.fullname, COUNT(DATE\_TRUNC('month', p.payment\_date)) pay\_countpermon, SUM(p.amount), SUM(p.amount) - LAG(SUM(p.amount)) OVER (PARTITION BY t.fullname ORDER BY DATE\_TRUNC('month', p.payment\_date)) difference | |
|  | | FROM payment p | |
|  | | JOIN top\_10 t | |
|  | | ON p.customer\_id = t.customer\_id | |
| GROUP BY 1,2; | |

THANK YOU

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