



ASSIGNMENT

15, 16, 17

RUMAISYA AZ-ZAHRA

1



IDENTIFY THE TOP 10 CUSTOMERS AND THEIR EMAIL SO WE CAN REWARD THEM

CODE

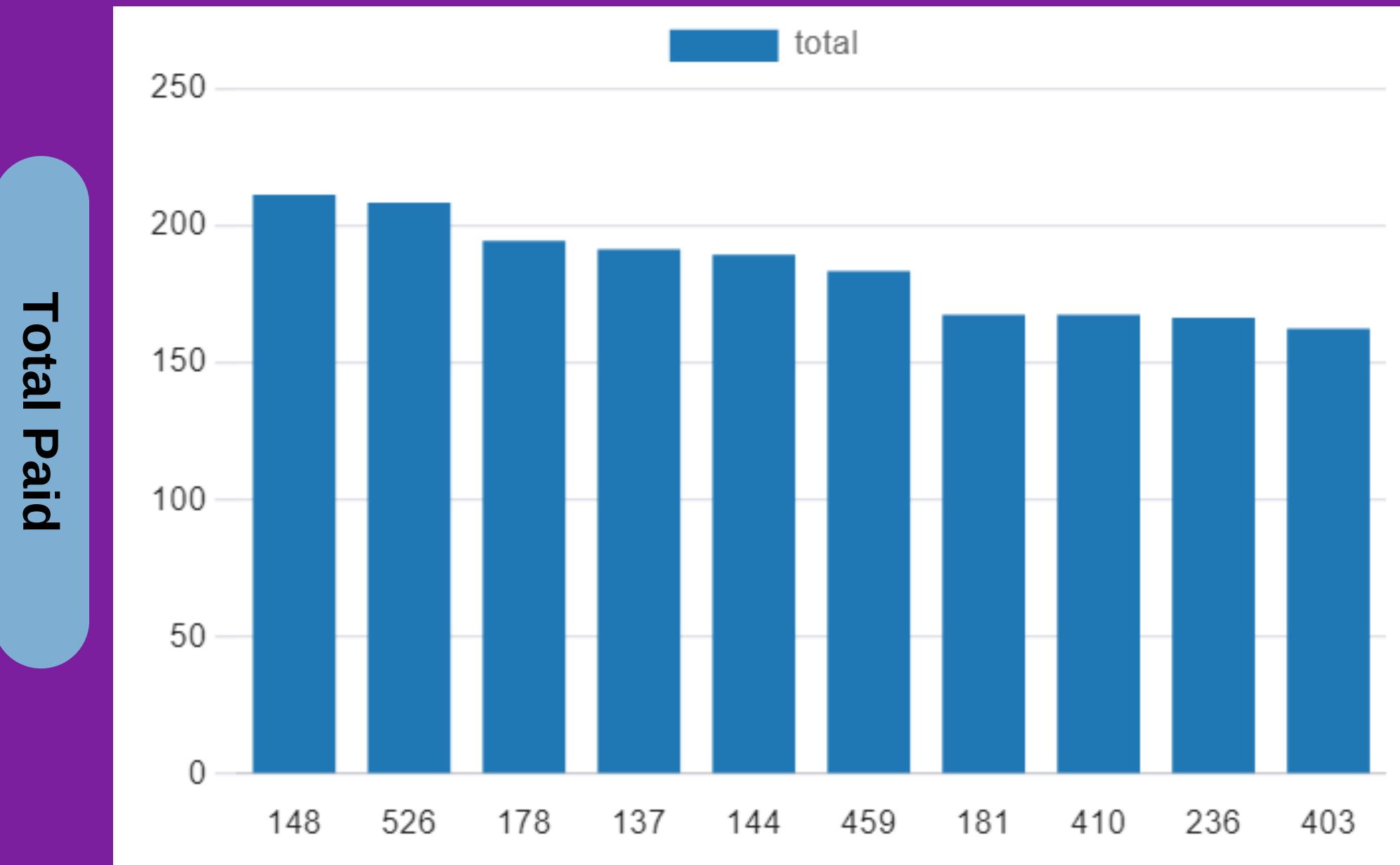
```
SELECT c.customer_id, c.email, SUM(amount) AS total_paid
FROM customer c
INNER JOIN payment p
ON p.customer_id=c.customer_id
GROUP BY c.customer_id
ORDER BY total_paid DESC
LIMIT 10
```

Dari code tersebut dan dengan 'DESC' menampilkan customer TOP 10 yang paling sering membeli. Dari tabel tersebutlah dapat diketahui 10 orang yang paling layak diberikan reward

RESULT

	customer_id [PK] integer	email character varying	total_paid numeric
1	148	eleanor.hunt@sakilacustomer.org	211.55
2	526	karl.seal@sakilacustomer.org	208.58
3	178	marion.snyder@sakilacustomer.org	194.61
4	137	rhonda.kennedy@sakilacustomer.org	191.62
5	144	clara.shaw@sakilacustomer.org	189.60
6	459	tommy.collazo@sakilacustomer.org	183.63
7	181	ana.bradley@sakilacustomer.org	167.67
8	410	curtis.irby@sakilacustomer.org	167.62
9	236	marcia.dean@sakilacustomer.org	166.61
10	403	mike.way@sakilacustomer.org	162.67

VISUALISASI DATA



Customer_id

2



IDENTIFY THE BOTTOM 10 CUSTOMERS AND THEIR EMAIL

CODE

```
SELECT c.customer_id, c.email, SUM(amount) AS total_paid
FROM customer c
INNER JOIN payment p
ON p.customer_id=c.customer_id
GROUP BY c.customer_id
ORDER BY total_paid ASC
LIMIT 10
```

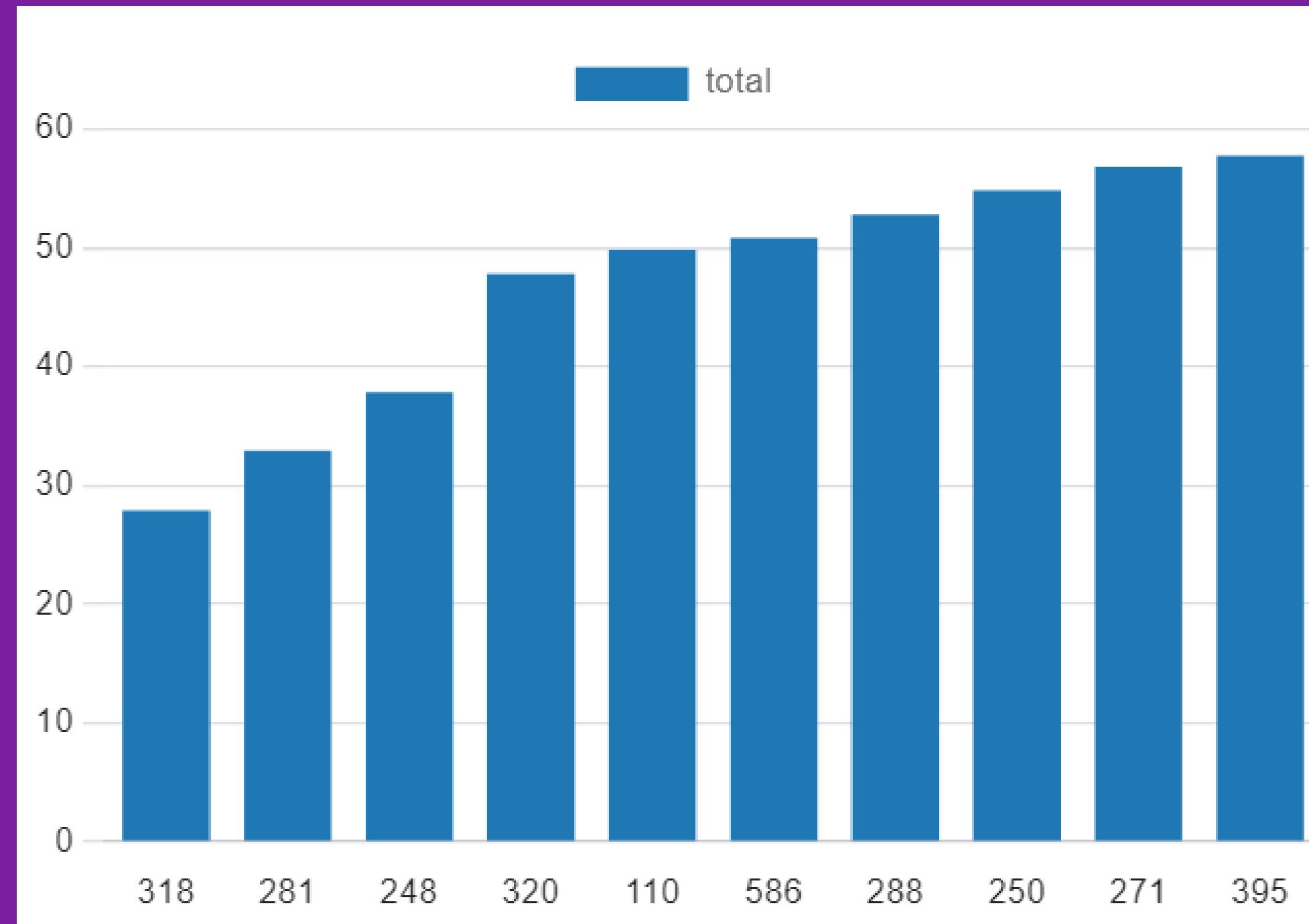
Dari code tersebut dan dengan 'ASC' menampilkan customer TOP 10 yang paling jarang membeli / membayar. Dari hal ini, customer tersebut tidak layak mendapat reward.

RESULT

	customer_id [PK] integer	email character varying	total_paid numeric
1	318	brian.wyman@sakilacustomer.org	27.93
2	281	leona.obrien@sakilacustomer.org	32.90
3	248	caroline.bowman@sakilacustomer.org	37.87
4	320	anthony.schwab@sakilacustomer.org	47.85
5	110	tiffany.jordan@sakilacustomer.org	49.88
6	586	kirk.stclair@sakilacustomer.org	50.83
7	288	bobbie.craig@sakilacustomer.org	52.81
8	250	jo.fowler@sakilacustomer.org	54.85
9	271	penny.neal@sakilacustomer.org	56.84
10	395	johnny.turpin@sakilacustomer.org	57.81

VISUALISASI DATA

Total Paid



Customer_id

3



WHAT ARE THE MOST PROFITABLE MOVIE GENRES (RATINGS)?

CODE

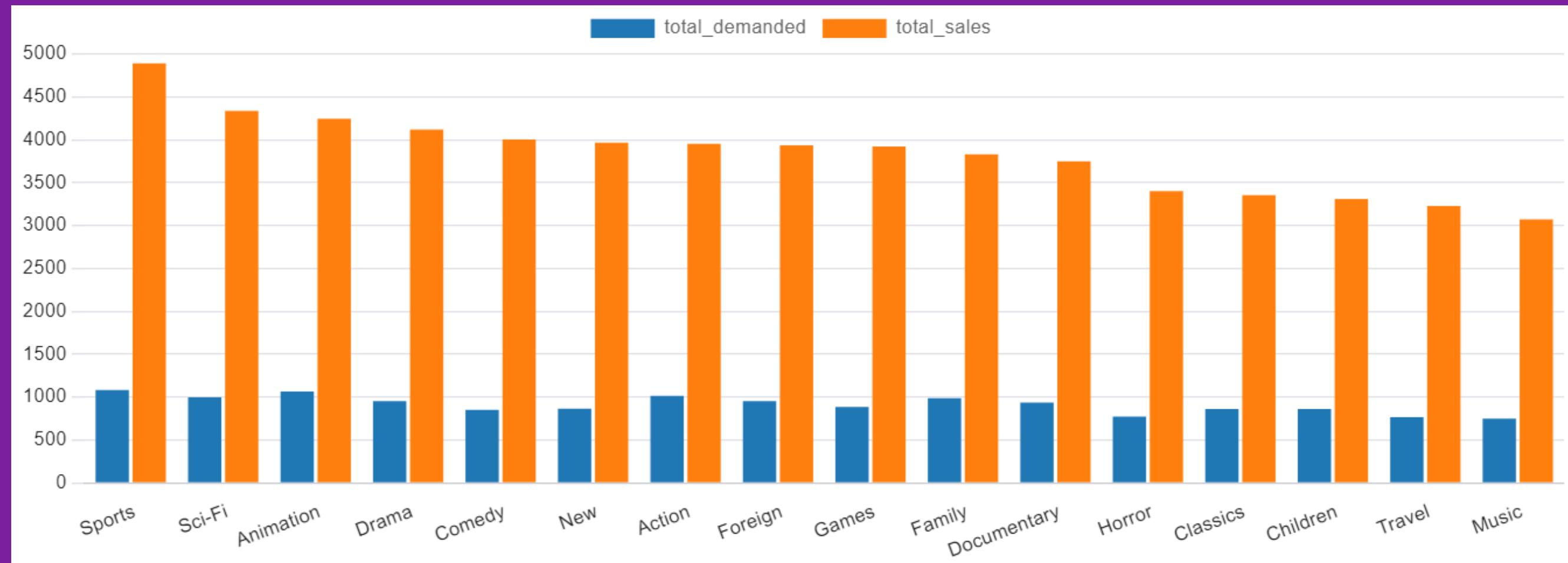
```
SELECT g.name AS GENRES, COUNT(c.customer_id) AS total_demanded, SUM(p.amount) AS total_sales
FROM category g
INNER JOIN film_category a ON g.category_id=a.category_id
INNER JOIN film f ON a.film_id=f.film_id
INNER JOIN inventory i ON f.film_id=i.film_id
INNER JOIN rental r ON i.inventory_id=r.inventory_id
INNER JOIN customer c ON r.customer_id=c.customer_id
INNER JOIN payment p ON r.rental_id=p.rental_id
GROUP BY Genres
ORDER BY total_sales DESC
```

Genres Sport menjadi genres movie yang paling menguntungkan karena memiliki total penjualan terbesar daripada genres lainnya sehingga paling profitable jika terus diproduksi perusahaan akan mendapat keuntungan besar.

RESULT

	genres character varying	total_demanded bigint	total_sales numeric
1	Sports	1081	4892.19
2	Sci-Fi	998	4336.01
3	Animation	1065	4245.31
4	Drama	953	4118.46
5	Comedy	851	4002.48
6	New	864	3966.38
7	Action	1013	3951.84
8	Foreign	953	3934.47
9	Games	884	3922.18
10	Family	988	3830.15
11	Documentary	937	3749.65
12	Horror	773	3401.27
13	Classics	860	3353.38
14	Children	861	3309.39
15	Travel	765	3227.36
16	Music	750	3071.52

VISUALISASI DATA



Genres

4



HOW MANY RENTED MOVIES WERE RETURNED LATE, EARLY, AND ON TIME?

CODE

```
WITH k1 AS (SELECT *, DATE_PART('days',return_date - rental_date)
             AS r FROM rental),
k2 AS (SELECT rental_duration, r,
CASE
    WHEN rental_duration>r THEN 'early'
    WHEN rental_duration=r THEN 'on time'
    ELSE 'late'
END AS return_status
FROM film f
JOIN inventory i
USING (film_id)
JOIN k1
USING (inventory_id))
SELECT Return_status, COUNT(*) AS total
FROM k2
GROUP BY 1
ORDER BY 2 DESC;
```

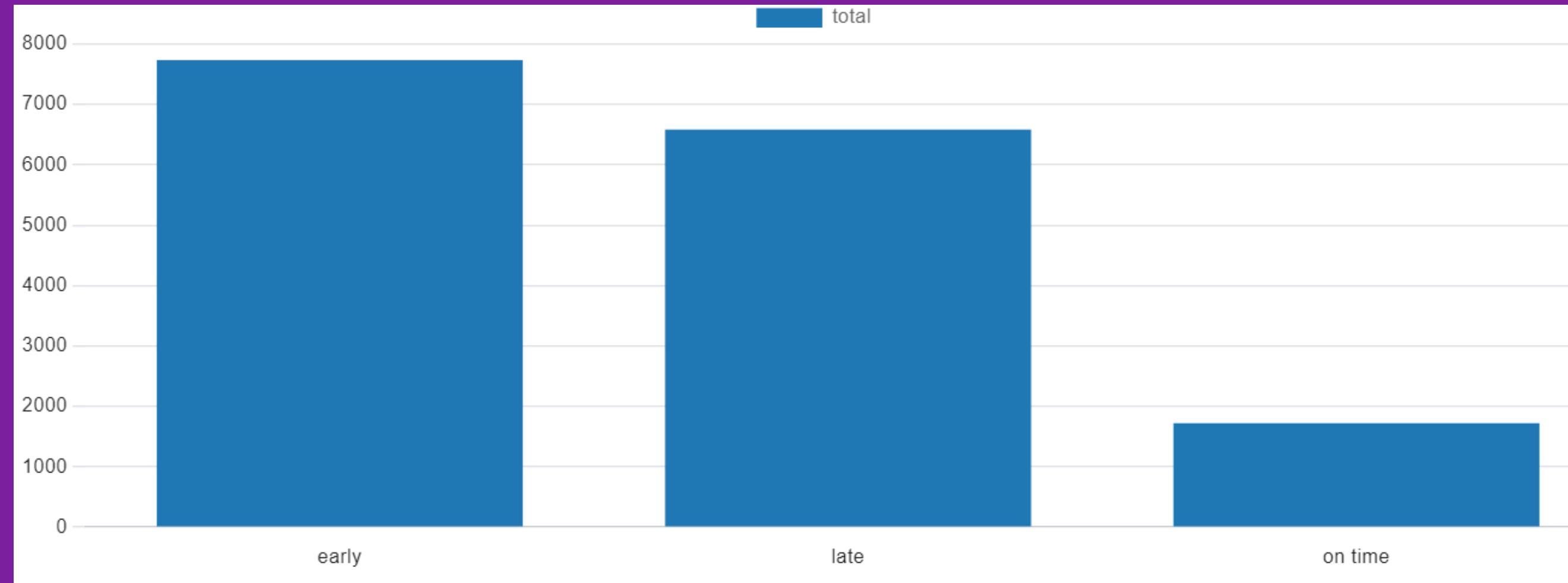
RESULT

	return_status	total
1	early	7738
2	late	6586
3	on time	1720

Pengembalian rental movie paling banyak sebelum tanggal pengembalian , early dan on time berada di posisi akhir.

VISUALISASI DATA

Total



return status

5



WHAT IS THE CUSTOMER BASE IN THE COUNTRIES WHERE WE HAVE A PRESENCE?

CODE

```
SELECT country, COUNT(customer_id) AS total_customer
FROM country c
INNER JOIN city k ON c.country_id = k.country_id
INNER JOIN address a ON k.city_id = a.city_id
INNER JOIN customer p ON a.address_id = p.address_id
GROUP BY country
ORDER BY total_customer DESC
```

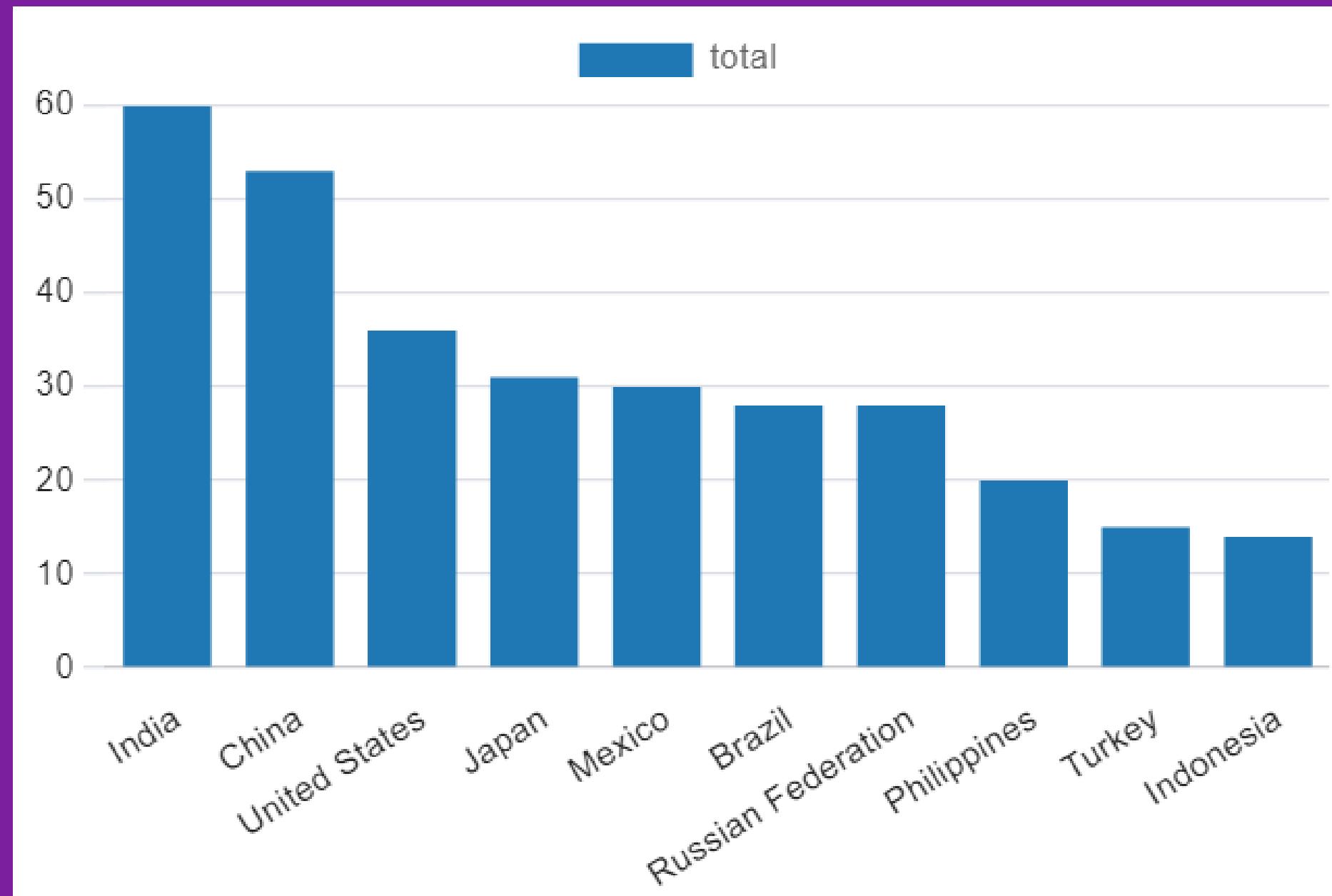
Basis negara dengan customer terbanyak ditempati oleh India. Jika ditinjau 3 negara teratas tersebut termasuk ke dalam negara penduduk terbanyak sehingga basis customernya juga banyak.

RESULT

	country character varying	total_customer bigint
1	India	60
2	China	53
3	United States	36
4	Japan	31
5	Mexico	30
6	Brazil	28
7	Russian Federation	28
8	Philippines	20
9	Turkey	15
10	Indonesia	14

VISUALISASI DATA

Total Customer



Country

6



WHICH COUNTRY IS THE MOST PROFITABLE FOR THE BUSINESS?

CODE

```
SELECT country, COUNT(*) AS total_customer, SUM(amount) AS total_sales
FROM country c
INNER JOIN city k ON c.country_id = k.country_id
INNER JOIN address a ON k.city_id = a.city_id
INNER JOIN customer p ON a.address_id = p.address_id
INNER JOIN payment t ON p.customer_id = t.customer_id
GROUP BY country
ORDER BY total_sales DESC
```

Data tersebut menghasilkan negara-negara yang profitable (menguntungkan). Dari 108 negara diambil 10 negara yang paling menguntungkan dengan India menempati posisi teratas.

RESULT

	country character varying	total_customer bigint	total_sales numeric
1	India	1422	6034.78
2	China	1297	5251.03
3	United States	869	3685.31
4	Japan	749	3122.51
5	Mexico	718	2984.82
6	Brazil	681	2919.19
7	Russian Federation	638	2765.62
8	Philippines	530	2219.70
9	Turkey	351	1498.49
10	Indonesia	331	1352.69

VISUALISASI DATA



7



WHAT IS THE AVERAGE RENTAL RATE PER MOVIE GENRE (RATING)?

CODE

```
SELECT c.name AS genre, AVG(rental_rate) AS average
FROM category c
INNER JOIN film_category k
ON c.category_id=k.category_id
INNER JOIN film f
ON k.film_id=f.film_id
GROUP BY genre
ORDER BY average DESC
```

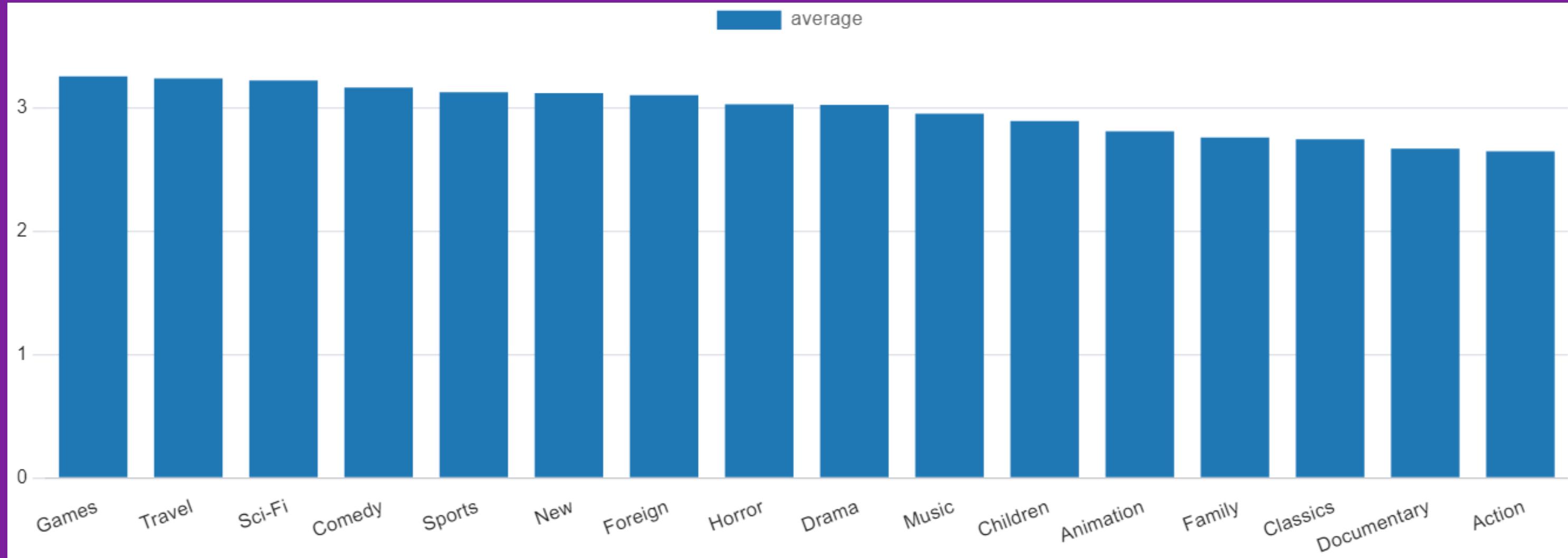
Genres games menghasilkan rate per-movie yang paling besar sehingga dapat disimpulkan bahwa orang-orang lebih menyukai genres game daripada genre lainnya

RESULT

	genre character varying	average numeric
1	Games	3.2522950819672131
2	Travel	3.2356140350877193
3	Sci-Fi	3.2195081967213115
4	Comedy	3.1624137931034483
5	Sports	3.1251351351351351
6	New	3.1169841269841270
7	Foreign	3.0995890410958904
8	Horror	3.0257142857142857
9	Drama	3.0222580645161290
10	Music	2.9507843137254902
11	Children	2.8900000000000000
12	Animation	2.8081818181818182
13	Family	2.7581159420289855
14	Classics	2.7443859649122807
15	Documentary	2.6664705882352941
16	Action	2.6462500000000000

VISUALISASI DATA

Average



Genres