

For each card, calculate the total transaction amount for each month.



```
SELECT card,MONTHNAME(trans_date) AS 'Month',  
ROUND(SUM(amount),0) AS Amount  
FROM trans  
GROUP BY card, MONTHNAME(trans_date)  
ORDER BY Amount DESC;
```

card	Month	Amount
4.761049645711556e18	September	4976
3.581345943543942e15	September	3877
501879657465	June	3852
4319653513507	June	3779
3.516952396080247e15	December	3568
501879657465	November	3173
4.761049645711556e18	December	3006

What is the total number of transactions in the dataset?



```
SELECT COUNT(id) as Total_Transaction  
FROM trans;
```

Total_Transaction
3500

What is the average transaction amount?



```
SELECT ROUND(AVG(amount),0)  
AS Avg_Trans_Amount  
FROM trans;
```

Avg_Trans_Amount
41

How many unique card holders are there in the dataset?



```
SELECT COUNT(id_card_holder) AS Unique_Card_Holders  
FROM card_holder;
```

Unique_Card_Holders
25

What is the total amount spent by each card holder?

```
SELECT H.holder_name as Holder,ROUND(SUM(T.amount),0) AS Amount
FROM credit_card C
JOIN trans T ON C.card = T.card
JOIN card_holder H on C.id_card_holder= H.id_card_holder
GROUP BY Holder
ORDER BY Amount DESC;
```

Holder	Amount
Austin Johnson	14442
Malik Carlson	12101
Nancy Contreras	11848
Laurie Gibbs	10391
Michael Floyd	8072
Stephanie Dalton	7772
Megan Price	1234
Danielle Green	877

Identify the top 5 merchants with the highest transaction amounts.

```
SELECT merchant_name as Merchant, ROUND(SUM(amount),0) as Amount
FROM merchant M
JOIN trans T on M.id_merchant = T.id_merchant
GROUP BY merchant_name
ORDER BY Amount DESC LIMIT 5;
```

Merchant	Amount
Jenkins, Peterson and Beck	3110
Jarvis-Turner	3351
Johnson-Fuller	3367
Baxter-Smith	3421
Romero-Jordan	3925

What is the average transaction amount for each merchant category?

```
SELECT MC.category_name as Category, ROUND(AVG(T.amount), 0) as Amount
FROM merchant M
JOIN trans T on M.id_merchant = T.id_merchant
JOIN merchant_category MC ON M.id_merchant_category = MC.id_merchant_category
GROUP BY MC.category_name
ORDER BY Amount DESC;
```

Category	Amount
bar	45
restaurant	44
pub	41
coffee shop	38
food truck	35

Find the day with the highest total transaction amount.



```
SELECT DATE(trans_date) AS 'Day', ROUND(SUM(amount), 0) AS Amount
FROM trans
GROUP BY DATE(trans_date)
ORDER BY Amount DESC
LIMIT 1;
```

Day	Amount
2018-11-27	4794

Calculate the average transaction amount per day.



```
SELECT DATE(trans_date) AS 'Day', ROUND(AVG(amount),0) AS Amount
FROM trans
GROUP BY DATE(trans_date)
ORDER BY DATE(trans_date) DESC;
```

Day	Amount
2018-12-31	11
2018-12-30	102
2018-12-29	8
2018-12-28	34
2018-12-27	8
2018-12-26	12
2018-12-25	215
2018-12-24	144
2018-12-23	9
2018-12-22	6

Identify transactions where the amount is significantly higher than the average amount for that card holder

```
SELECT T.ID, C.card, H.holder_name, ROUND(T.amount,0) AS Amount,
(SELECT ROUND(AVG(T2.amount),0)
FROM trans T2
JOIN credit_card C2 ON T2.card = C2.card
WHERE C2.id_card_holder = H.id_card_holder) AS Average_Amount
FROM credit_card C
JOIN trans T ON C.card = T.card
JOIN card_holder H ON C.id_card_holder = H.id_card_holder
HAVING Amount > Average_Amount;
```

ID	card	holder_name	Amount	Average_Amount
3064	30142966699187	Stephanie Dalton	1901	68
3098	344119623920892	Malik Carlson	1839	91
3139	344119623920892	Malik Carlson	1814	91
2582	4319653513507	Nancy Contreras	1813	96
2760	501879657465	Austin Johnson	1802	219
3143	30181963913340	Laurie Gibbs	1795	170
3252	344119623920892	Malik Carlson	1769	91
2696	30181963913340	Laurie Gibbs	1724	170

Identify merchants with the highest number of transactions.



```
SELECT M.merchant_name, count(id) as Transactions
FROM merchant M
JOIN trans T ON M.id_merchant = T.id_merchant
GROUP BY M.merchant_name
ORDER BY Transactions DESC;
```

merchant_name	Transactions
Riggs-Adams	37
Jarvis-Turner	36
White-Hall	36
Ruiz-Anderson	34
Johnson and Sons	34
Padilla-Clements	33
Hamilton-Mcfarland	33
Kennedy-Chen	32
Little-Floyd	32

Calculate the average transaction amount for each card holder's name.

```
SELECT holder_name, ROUND(AVG(amount), 0) as Amount
FROM card_holder h
JOIN (SELECT id_card_holder, c.card, t.amount
FROM credit_card c JOIN trans t ON c.card = t.card) AS T
ON h.id_card_holder = T.id_card_holder
GROUP BY holder_name
ORDER BY Amount DESC;
```

holder_name	Amount
Austin Johnson	219
Laurie Gibbs	170
Michael Floyd	139
Nancy Contreras	96
Malik Carlson	91
Stephanie Dalton	68
Crystal Clark	10
Shane Shaffer	10
Danielle Green	9
Sara Cooper	9

Find the top 10 card holders with the highest total transaction amounts.

```
SELECT holder_name, ROUND(SUM(amount), 0) as Amount
FROM card_holder h
JOIN (SELECT id_card_holder, c.card, t.amount
FROM credit_card c JOIN trans t ON c.card = t.card) AS T
ON h.id_card_holder = T.id_card_holder
GROUP BY holder_name
ORDER BY Amount DESC;
```

holder_name	Amount
Austin Johnson	14442
Malik Carlson	12101
Nancy Contreras	11848
Laurie Gibbs	10391
Michael Floyd	8072
Stephanie Dalton	7772
Megan Price	1234
Danielle Green	877
Crystal Clark	812
Brandon Pineda	612

Find the merchant categories with the highest total transaction amounts.



```
SELECT category_name, ROUND(SUM(amount), 0) AS Amount
FROM merchant_category c
JOIN merchant m ON c.id_merchant_category = m.id_merchant_category
JOIN trans t ON m.id_merchant = t.id_merchant
GROUP BY category_name
ORDER BY Amount DESC;
```

category_name	Amount
pub	34377
restaurant	31080
bar	29281
food truck	26568
coffee shop	21457