

SQL CHALLENGE

Joining two tables (The all_loans and all_loanhist tables should be joined together on all_loans.loanid = all_loanhist.loanid.)

```
CREATE TABLE loan_records AS
SELECT *
FROM all_loans AS a
INNER JOIN all_loanhist AS b
ON all_loans.loanid = all_loanhist.loanid
```

1. Build a query to count the number of loans per customer

```
SELECT custid, count(loanid) AS num_loans
FROM loan_records
GROUP BY custid
ORDER BY custid ASC
```

2. Write a query to identify if a customer had more than one active loan at the same time

(Here, if a customer doesn't have payoff date AND write off date, then the loan is still open/active.)

```
SELECT custid,
       COUNT(CASE WHEN payoffdate IS NULL
                  AND writeoffdate IS NULL
                  THEN loanid END) AS num_active
FROM all_loans
GROUP BY custid
HAVING COUNT(CASE WHEN payoffdate IS NULL
                  AND writeoffdate IS NULL
                  THEN loanid END) > 1
```

3. Write a query to pull loanid, custid, first name, last name, and loan amount from all_loans where the approvedate is after Jan 1, 2019, the state of the loan is in CA, the first name of the customer is either Matt, Kyle, Jessica or Mary and the last name of the customer starts with the letter 'Y'.

```
SELECT loanid,
       custid,
       fn,
       ln,
       amount
FROM all_loans
WHERE ln LIKE 'Y%'
AND fn IN ('Matt', 'Kyle', 'Jessica', 'Mary')
AND approvedate > 2019/01/01
AND state = 'CA'
```

4. Write a query to calculate how much payment is received from each customer in the first 6 months of them being a customer (only include payments for the first loan).

```

WITH time_diff AS
(
SELECT custid,
       loanid,
       amount_paid
FROM loan_records
WHERE (snapshot_date::DATE-approveddate::DATE) < 183
),
earliest_loan AS
(
SELECT
    RANK() OVER(PARTITION BY custid ORDER BY loanid ASC) AS rk,
    custid,
    loanid,
    amount_paid
FROM time_diff
)
SELECT custid,
       SUM(amount_paid) as tot_pymnt
from earliest_loan
where rk=1
group by custid

```

5. Write a query to show the total % of principal collected as a percentage of the total loan amount in the first 6 months for each customer (if a customer has multiple loans, include all loans approved within 6 months of the customer's first loan).

```

SELECT (sum(totprincpaid)/sum(amount::integer))*100 AS perc_princ,
       custid
FROM all_loans
JOIN all_loanhist
ON custid = custid
GROUP BY custid, perc_princ
HAVING snapshot_date
BETWEEN min(all_loans.approvedate) AND (min(all_loans.approvedate) + INTERVAL '6 month'))

```