SQL Challenge

You are given 2 tables: all_loans and all_loanhist, with the fields as shown in the select query (details of the tables and fields further below).

```
select loanid,
       custid,
       approvedate,
       payoffdate,
       writeoffdate,
       amount,
       state,
       fn as first_name,
       ln as last_name
       from all_loans;
```

```
select id,
       loanid,
       snapshot_date,
       amount_paid,
       totprincpaid
       from all_loanhist;
```

Based on these 2 tables with their fields, provide the sql statements (in postgresql) to answer the following questions:

1. Build a query to count the number of loans per customer.
2. Write a query to identify if a customer had more than one active loan at the same time.
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'.
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).
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).

Table and field definitions:

1. all_loans: Table containing loan level detail. One record per loan.
2. all_loanhist: Week level snapshot data for each loan - specifying by week the payments received and how much was contributed to paying off the principal.
3. The all_loans and all_loanhist tables should be joined together on all_loans.loanid =

all_loanhist.loanid.

Table Name:	**all_loans**
Table Definition:	Table containing loan level detail. One record per loan.
Fields:	**Description**
loanid	Unique identifier for each loan
custid	Unique identifier for each customer (A customer could have muliple loans)
approvedate	Date on which the loan was approved/funded
payoffdate	Date on which the loan was paid off (if paid off - i.e. the customer closed the loan by paying in full the loan)
writeoffdate	Date on which the loan was written off (if writtten off - i.e. the customer could not pay the loan and thus had to be written off)
amount	Loan amount that was issued to the customer in this loan.
state	State were the loan was issued
fn	Customer's First Name
ln	Customer's Last Name

Example Values:

loanid	custid	approvedate	payoffdate	writeoffdate	amount	state	fn	ln
100	1	2016/01/01	2016/04/20		$500	CA	Matt	Yu
101	2	2016/01/10	2016/05/01		$800	MD	Jessica	Jones
102	6	2016/02/07		2016/04/20	$1,200	CA	Mary	Boom
103	7	2016/02/07		2016/03/15	$1,500	IL	Sandra	Busse
104	1	2016/05/01		2016/09/15	$1,300	CA	Matt	Yu
105	10	2016/10/25		2017/10/01	$900	MN	John	Rivers

Table Name	all_loanhist
Table Definition	Weekly snapshot data for each loan - specifying by week the payments recieved and how much was contributed to paying off the principal.
Fields	**Description**
id	Unique row identifier
loanid	Unique identifier for each loan
snapshot_date	Snapshot Date for this record
amount_paid	Amount paid towards the loan during this week
principal_paid	Of the total paid, amount that goes towards the principal payment during this week

Example Values

id	loanid	snapshot_date	amount_paid	totprincpaid	status
1	100	2016/01/07	50	10	Active
2	100	2016/01/14	50	12	Active
3	101	2016/01/14	75	15	Inactive
4	100	2016/01/21	50	12	Active
5	101	2016/01/21	75	17	Inactive