Assignment 1

The schema definition of some relations are given as-

customer(customer_name, customer_street, customer_city)

loan(loan_number, branch_name, amount)

borrower(customer_name, loan_number)

account(account_number, branch_name, balance)

depositor(customer_name, account_number)

branch(branch_name, branch_city, assets)

N.B : Use the data which I have provided for our lab work.

Question 1: Draw the schema diagram from the given relations.

Question 2: Write down the SQL and relational algebra expressions for the questions below

Q1. Find the average loan amount from each branch.

Q2. Write a query to show the details of a customer whose street name has two consecutive 's'.

Q3. Find all customers who have a loan from the bank, find their names and loan numbers.

Q4. Find the list of all customers in alphabetic order who have a loan in the 'Perryridge' branch.

Q5. Find all customers having a loan, an account, or both at the bank.

Q6. Find the names of all customers whose street address includes the substring 'Main'.

Q7. Find the average loan amount from each branch where the average loan amount is greater than 1500.

Q8. Count the number of tuples in customer relations.

Q9. Find the average account balance, maximum account balance at each branch.

Q10. Find the names of all those customers who have a loan at Perryridge branch.

Q11. Delete the records of all accounts with balances below the average at that bank.

Q10. Consider the following tables "**loan**" and "**borrower**". Perform **RIGHT OUTER JOIN**, **LEFT OUTER JOIN**, **INNER JOIN,** and **NATURAL JOIN** operations and show the results.

Question 3: Demonstrate the output of the above questions from Question2(Q1-Q10).

Question 4: Given a relation:

Employee (EmpID, Name, Email, Phone, Department)

Identify all possible superkeys and candidate keys.