



# LAB REPORT

**COURSE TITLE** : Database Systems Lab  
**COURSE CODE** : CSE 208  
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## **SUBMITTED TO**






















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# Database Systems Lab






















This is a continuation of the topics discussed in the previous labs. It inherits the six data tables from the **2nd lab** and primary keys from the **3rd lab**.

<div><div><div>←</div><div>T</div><div>→</div></div></div>					account_number	branch_name	balance		
<input type="checkbox"/>		Edit		Copy		Delete	A-101	Downtown	500
<input type="checkbox"/>		Edit		Copy		Delete	A-102	Perryridge	400
<input type="checkbox"/>		Edit		Copy		Delete	A-201	Brighton	900
<input type="checkbox"/>		Edit		Copy		Delete	A-215	Mianus	700
<input type="checkbox"/>		Edit		Copy		Delete	A-217	Brighton	750
<input type="checkbox"/>		Edit		Copy		Delete	A-222	Redwood	700
<input type="checkbox"/>		Edit		Copy		Delete	A-305	Round Hill	350

*Figure - 1.1. Account relation*

<div><div>←T→</div><div></div></div>				branch_name	branch_city	assets
<input type="checkbox"/>	 Edit	 Copy	 Delete	Brighton	Brooklyn	7100000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Downtown	Brooklyn	9000000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Mianus	Horseneck	400000
<input type="checkbox"/>	 Edit	 Copy	 Delete	North Town	Rye	3700000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Perryridge	Horseneck	1700000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Pownal	Bennington	300000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Redwood	Palo Alto	2100000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Round Hill	Horseneck	8000000






















*Figure - 1.2. Branch relation*

<div><div>←</div><div>T</div><div>→</div></div>					customer_name	account_number
<input type="checkbox"/>	 Edit	 Copy	 Delete	Hayes	A-102	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Johnson	A-101	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Johnson	A-201	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Jones	A-217	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Lindsay	A-222	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Smith	A-215	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Turner	A-305	

























*Figure - 1.3. Depositor relation*

					customer_name	customer_street	customer_city
<input type="checkbox"/>	 Edit	 Copy	 Delete	Adams	Spring	Pittsfield	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Brooks	Senator	Brooklyn	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Curry	North	Rye	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Glenn	Sand Hill	Woodside	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Green	Walnut	Stamford	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Hayes	Main	Harrison	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Johnson	Alma	Palo Alto	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Jones	Main	Harrison	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Lindsay	Park	Pittsfield	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Smith	North	Rye	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Turner	Putnam	Stamford	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Williams	Nassau	Princeton	

*Figure - 1.4. Customer relation*

<div><div><div>←</div><div>T</div><div>→</div></div></div>				loan_number	branch_name	amount
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-11	Round Hill	900
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-14	Downtown	1500
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-15	Perryridge	1500
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-16	Perryridge	1300
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-17	Downtown	1000
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-23	Redwood	2000
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-93	Mianus	500

*Figure - 1.5. Loan relation*

<div><div><div>←</div><div>T</div><div>→</div></div><div>▼</div></div>				customer_name	loan_number
<input type="checkbox"/>	 Edit	 Copy	 Delete	Adams	L-16
<input type="checkbox"/>	 Edit	 Copy	 Delete	Curry	L-93
<input type="checkbox"/>	 Edit	 Copy	 Delete	Hayes	L-15
<input type="checkbox"/>	 Edit	 Copy	 Delete	Johnson	L-14
<input type="checkbox"/>	 Edit	 Copy	 Delete	Jones	L-17
<input type="checkbox"/>	 Edit	 Copy	 Delete	Smith	L-11
<input type="checkbox"/>	 Edit	 Copy	 Delete	Smith	L-23
<input type="checkbox"/>	 Edit	 Copy	 Delete	Williams	L-17

*Figure - 1.6. Borrower relation*

# Lab Tasks

## 1. Fetch all the customer's name in alphabetic order who lives in Harrison

```
SELECT customer_name FROM customer
WHERE customer_city="Harrison"
ORDER BY customer_name;
```








				customer_name	1
<input type="checkbox"/>	 Edit	 Copy	 Delete	Hayes	
<input type="checkbox"/>	 Edit	 Copy	 Delete	Jones	

Figure - 1.7. Task 1

## 2. Find the list of all customers in alphabetic order who have a loan at the **Perryridge** branch

```
SELECT * FROM loan, borrower
WHERE loan.loan_number=borrower.loan_number
AND branch_name="Perryridge";
```

loan_number	branch_name	amount	customer_name	loan_number
L-16	Perryridge	1300	Adams	L-16
L-15	Perryridge	1500	Hayes	L-15

*Figure - 1.8. Task 2A*

Alternative approach:

```
SELECT * FROM loan NATURAL JOIN borrower
WHERE branch_name="Perryridge";
```

loan_number	branch_name	amount	customer_name
L-16	Perryridge	1300	Adams
L-15	Perryridge	1500	Hayes

*Figure - 1.9. Task 2B*

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























```
SELECT customer_name, loan.loan_number, amount
FROM loan, borrower
WHERE borrower.loan_number=loan.loan_number;
```

customer_name	loan_number	amount
Adams	L-16	1300
Curry	L-93	500
Hayes	L-15	1500
Johnson	L-14	1500
Jones	L-17	1000
Smith	L-11	900
Smith	L-23	2000
Williams	L-17	1000

*Figure - 1.10. Task 3*

## 4. Find the name of all branches from **loan** table

```
SELECT DISTINCT branch_name FROM loan;
```






















				loan_number	branch_name	amount
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-11	Round Hill	900
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-14	Downtown	1500
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-15	Perryridge	1500
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-16	Perryridge	1300
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-17	Downtown	1000
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-23	Redwood	2000
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-93	Mianus	500

*Figure - 1.11. Task 4*



5. Find loan number and 5 times amount from **loan** relation and replace the column name with **Total Balance**























```
SELECT loan_number, amount*5 "Total Balance" FROM loan;
```

<div><div><div>←</div><div>T</div><div>→</div></div></div>				loan_number	Total Balance
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-11	4500
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-14	7500
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-15	7500
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-16	6500
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-17	5000
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-23	10000
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-93	2500

*Figure - 1.12. Task 5*

## 6. Increase all loan amount by 5 percent from **loan** relation














```
SELECT loan_number, amount*1.05 FROM loan;
```

				loan_number	amount*1.05
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-11	945.00
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-14	1575.00
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-15	1575.00
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-16	1365.00
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-17	1050.00
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-23	2100.00
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-93	525.00

*Figure - 1.13. Task 6*

## 7. Give 6 percent interest for all loans with amount over 1000


























```
SELECT loan_number, amount*1.06 FROM loan
WHERE amount > 1000;
```

				loan_number	amount*1.06
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-14	1590.00
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-15	1590.00
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-16	1378.00
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-23	2120.00























*Figure - 1.14. Task 7*

## 8. Delete all information of Perryridge branch from **branch** table

```
DELETE FROM branch WHERE branch_name="Perryridge";
```

				branch_name	branch_city	assets
<input type="checkbox"/>	 Edit	 Copy	 Delete	Brighton	Brooklyn	7100000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Downtown	Brooklyn	9000000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Mianus	Horseneck	400000
<input type="checkbox"/>	 Edit	 Copy	 Delete	North Town	Rye	3700000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Perryridge	Horseneck	1700000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Pownal	Bennington	300000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Redwood	Palo Alto	2100000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Round Hill	Horseneck	8000000

*Figure - 1.15. Task 8A*

				branch_name	branch_city	assets
<input type="checkbox"/>	 Edit	 Copy	 Delete	Brighton	Brooklyn	7100000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Downtown	Brooklyn	9000000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Mianus	Horseneck	400000
<input type="checkbox"/>	 Edit	 Copy	 Delete	North Town	Rye	3700000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Pownal	Bennington	300000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Redwood	Palo Alto	2100000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Round Hill	Horseneck	8000000

*Figure - 1.16. Task 8B*

## 9. Delete all loans with loan amounts between 1300 and 1500

```
DELETE FROM loan
WHERE amount ≥ 1300 AND amount ≤ 1500;
```






















				loan_number	branch_name	amount
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-11	Round Hill	900
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-14	Downtown	1500
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-15	Perryridge	1500
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-16	Perryridge	1300
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-17	Downtown	1000
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-23	Redwood	2000
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-93	Mianus	500

Figure - 1.17. Task 9A













<div><div><div>←</div><div>T</div><div>→</div></div></div>				loan_number	branch_name	amount
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-11	Round Hill	900
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-17	Downtown	1000
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-23	Redwood	2000
<input type="checkbox"/>	 Edit	 Copy	 Delete	L-93	Mianus	500

Figure - 1.18. Task 9B