

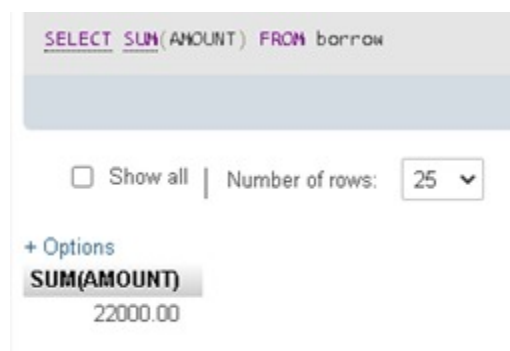
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EXPERIMENT NO.5 : AGGREGATE FUNCTIONS

1.List total loan

```
SELECT SUM (AMOUNT) FROM BORROW;
```

Output



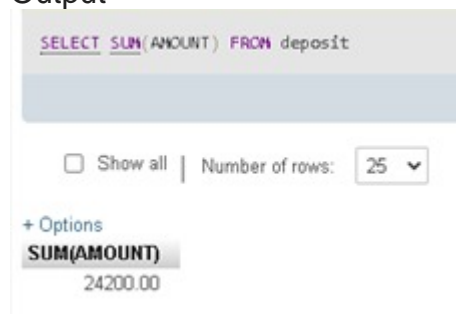
The screenshot shows a SQL query execution interface. At the top, the query `SELECT SUM(AMOUNT) FROM borrow` is entered. Below the query, there are controls for 'Show all' (unchecked) and 'Number of rows' (set to 25). Under the heading '+ Options', the result is displayed as a table with one row: `SUM(AMOUNT)` with the value `22000.00`.

SUM(AMOUNT)
22000.00

2.List total deposit

```
SELECT SUM (AMOUNT) FROM DEPOSIT;
```

Output



The screenshot shows a SQL query execution interface. At the top, the query `SELECT SUM(AMOUNT) FROM deposit` is entered. Below the query, there are controls for 'Show all' (unchecked) and 'Number of rows' (set to 25). Under the heading '+ Options', the result is displayed as a table with one row: `SUM(AMOUNT)` with the value `24200.00`.

SUM(AMOUNT)
24200.00

3.List total loan taken from KAROLBAGH branch

```
SELECT MAX(AMOUNT) FROM BORROW WHERE BNAME ='KAROLBAGH';
```

Output



The screenshot shows a SQL query execution interface. At the top, the query `SELECT MAX(AMOUNT) FROM borrow WHERE BNAME ='KAROLBAGH'` is entered. Below the query, there are controls for 'Show all' (unchecked), 'Number of rows' (set to 25), and 'Filter rows' (set to 0). Under the heading '+ Options', the result is displayed as a table with one row: `MAX(AMOUNT)` with the value `NULL`.

MAX(AMOUNT)
NULL

4.List total deposit of customers having account date later than 1-Jan-96

SELECT SUM(AMOUNT) from deposit where adate>'1995-03-01';

Output



The screenshot shows a database query interface. At the top, the SQL query is entered: `SELECT SUM(AMOUNT) from deposit where adate>'1995-03-01'`. Below the query, there are controls for "Show all", "Number of rows" (set to 25), and "Filter rows". The result is displayed in a table with one row:

SUM(AMOUNT)
14700.00

5.List total deposit of customers living in city NAGPUR

SELECT SUM(D1.AMOUNT) FROM DEPOSIT D1 , CUSTOMER C1 WHERE
C1.CITY = 'NAGPUR' AND C1.CNAME = D1.CNAME;



The screenshot shows a database query interface. The SQL query is: `SELECT SUM(D1.AMOUNT) FROM DEPOSIT D1 , CUSTOMER C1 WHERE C1.CITY = 'NAGPUR' AND C1.CNAME = D1.CNAME;`. The result is displayed in a table with one row:

SUM(D1.AMOUNT)
4200.00

6.List maximum deposit of customer living in Bombay

SELECT MAX(D1.AMOUNT) FROM DEPOSIT D1 , CUSTOMER C1 WHERE
C1.CITY = 'Bombay' AND C1.CNAME = D1.CNAME;



The screenshot shows a database query interface. The SQL query is: `SELECT MAX(D1.AMOUNT) FROM DEPOSIT D1 , CUSTOMER C1 WHERE C1.CITY = 'Bombay' AND C1.CNAME = D1.CNAME;`. The result is displayed in a table with one row:

MAX(D1.AMOUNT)
5000.00

7.List total deposit of customer having branch in BOMBAY

SELECT SUM (AMOUNT) from deposit,BRANCH where city='BOMBAY';

Output



The screenshot shows a database query interface. The SQL query is: `SELECT SUM (AMOUNT) from deposit,BRANCH where city='BOMBAY';`. The result is displayed in a table with one row:

SUM(AMOUNT)
48400.00

8.Count total number of branch cities

SELECT COUNT(DISTINCT (CITY)) FROM BRANCH ;



The screenshot shows a database query interface. The SQL query is: `SELECT COUNT(DISTINCT (CITY)) FROM BRANCH ;`. The result is displayed in a table with one row:

COUNT(DISTINCT (CITY))
4

9.Count total number of customers cities

SELECT count(city) from CUSTOMER;



The screenshot shows a database query interface. The SQL query is: `SELECT COUNT(CITY) FROM customer;`. The result is displayed in a table with one row:

COUNT(CITY)
10

10.Give branch names and branch wise deposit

SELECT BNAME , SUM(AMOUNT) FROM DEPOSIT GROUP BY BNAME;

Output

+ Options		
	BNAME	SUM(AMOUNT)
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	ANDHERI	2000.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	ANJANI	500.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	CHANDNI	1200.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	KAROLBAGH	3500.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	MG ROAD	3000.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	NEHRU PALACE	5000.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	POWAI	7000.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	VIRAR	1000.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	VRCE	1000.00

11. Give city wise name and branch wise deposit

SELECT C1.CITY , SUM(D1.AMOUNT) FROM CUSTOMER C1 , DEPOSIT D1
WHERE D1.CNAME = C1.CNAME GROUP BY C1.CITY;

+ Options		
	CITY	SUM(D1.AMOUNT)
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	BARODA	3500.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	BOMBAY	6000.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	CALCUTTA	1000.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	DELHI	500.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	NAGPUR	4200.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	SURAT	2000.00

12. Give the branch wise loan of customer living in NAGPUR

SELECT BNAME , SUM(AMOUNT) FROM BORROW,CUSTOMER WHERE city
='NAGPUR' GROUP BY BNAME;

+ Options		
	BNAME	SUM(AMOUNT)
	AJANI	10000.00
	ANDHERI	4000.00
	DHARAMPETH	6000.00
	NEHRU PALACE	6000.00
	VIRAR	16000.00
	VRCE	2000.00

13. Count total number of customers

SELECT count(cname) from CUSTOMER;

Output

+ Options		
	count(cname)	
	10	

14. Count total number of depositors branch wise

SELECT BName, count (*) from DEPOSIT, CUSTOMER where deposit.CNAME =
CUSTOMER.CNAME group by BNAME

Output

+ Options	
BName	count(*)
ANDHERI	1
ANJNI	1
CHANDNI	1
KAROLBAGH	1
MG ROAD	1
NEHRU PALACE	1
VIRAR	1
VRCE	1

15.Count total number of depositors branch wise

SELECT BName, count (*)from DEPOSIT, CUSTOMER where deposit.CNAME = CUSTOMER.CNAME group by BNAME

+ Options	
BName	count(*)
ANDHERI	1
ANJNI	1
CHANDNI	1
KAROLBAGH	1
MG ROAD	1
NEHRU PALACE	1
VIRAR	1
VRCE	1

16.Give maximum loan from branch VRCE

SELECT MAX(AMOUNT) FROM BORROW WHERE BNAME ='VRCE';

+ Options	
MAX(AMOUNT)	
	1000.00

17.Give the number of customers who are depositors as well as borrowers

SELECT COUNT(DISTINCT (CNAME)) FROM CUSTOMER WHERE CNAME IN ((SELECT CNAME FROM DEPOSIT) INTERSECT (SELECT CNAME FROM BORROW));

+ Options	
COUNT(DISTINCT (CNAME))	
	6

EXPERIMENT NO.6 : SET OPERATIONS

1. List all the customers who are depositors but not borrowers.

```
SELECT CNAME FROM DEPOSIT MINUS SELECT CNAME FROM BORROW;
```

2. List all the customers who are both depositors and borrowers

```
SELECT CNAME FROM DEPOSIT UNION (SELECT CNAME FROM BORROW);
```

Output



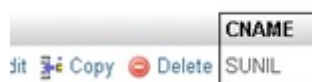
A screenshot of a database query result. It shows a vertical list of names: ANIL, SUNIL, MEHUL, MADHURI, PRAMOD, SANDIP, SHIVANI, KRANTI, and MINU. The name 'CNAME' is highlighted at the top of the list, and there is a '+ Options' link above it.

CNAME
ANIL
SUNIL
MEHUL
MADHURI
PRAMOD
SANDIP
SHIVANI
KRANTI
MINU

3. List all the depositors having deposit in all the branches where Sunil is having Account

```
SELECT D1.CNAME FROM DEPOSIT D1 WHERE D1.BNAME IN (SELECT D2.BNAME FROM DEPOSIT D2 WHERE D2.CNAME = 'SUNIL');
```

Output



A screenshot of a database query result. It shows a single row with the name 'SUNIL'. The column header is 'CNAME'. There are icons for 'Copy' and 'Delete' next to the row.

CNAME
SUNIL

4. List all the customers living in city NAGPUR and having branch city BOMBAY or DELHI

```
SELECT C1.CNAME FROM CUSTOMER C1,DEPOSIT D1, BRANCH B1 WHERE C1.CITY = 'NAGPUR' AND C1.CNAME = D1.CNAME AND D1.BNAME = B1.BNAME AND B1.CITY IN ('BOMBAY','DELHI');
```



A screenshot of a database query result. It shows a single row with the name 'MADHURI'. The column header is 'CNAME'. There is a 'Delete' icon next to the row.

CNAME
MADHURI

5. List all the depositors living in city NAGPUR

```
SELECT Distinct(CUSTOMER.CNAME) from CUSTOMER,DEPOSIT WHERE City='NAGPUR';
```



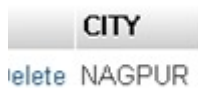
A screenshot of a database query result. It shows a vertical list of names: MADHURI and PRAMOD. The name 'CNAME' is highlighted at the top of the list, and there is a '+ Options' link above it.

CNAME
MADHURI
PRAMOD

6. List all the depositors living in the city NAGPUR and having branch in city BOMBAY
 SELECT C1.CNAME FROM CUSTOMER C1,DEPOSIT D1, BRANCH B1 WHERE
 C1.CITY = 'NAGPUR' AND C1.CNAME = D1.CNAME AND D1.BNAME =
 B1.BNAME AND B1.CITY IN ('BOMBAY');

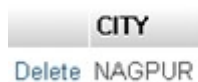


7. List the branch cities of Anil and Sunil
 SELECT B1.CITY FROM DEPOSIT D1, BRANCH B1 WHERE D1.BNAME =
 B1.BNAME AND D1.CNAME IN ('SUNIL' ,'ANIL');



11. List all the cities where branches of Anil and Sunil are locate
 SELECT B1.CITY FROM BRANCH B1 WHERE B1.BNAME IN (SELECT
 D1.BNAME FROM DEPOSIT D1 WHERE D1.CNAME IN ('ANIL','SUNIL'));

Output



EXPERIMENT NO.7 : JOIN OR CARTESIAN PRODUCT

1. Give name of customers having living city BOMBAY and branch city NAGPUR
 SELECT D1.CNAME,D1.BNAME,C1.CNAME,C1.CITY,B1.CITY,B1.BNAME FROM DEPOSIT
 D1,C

USTOMER C1,BRANCH B1 WHERE C1.CITY = 'BOMBAY' AND B1.CITY = 'NAGPUR' AND
D1.CNAME = C1.CNAME AND D1.BNAME = B1.BNAME;

Output

CNAME	BNAME	CNAME	CITY	CITY	BNAME
-------	-------	-------	------	------	-------

2.Give names of customers having the same living city as their branch city
SELECT distinct(customer.CNAME), BRANCH.CITY FROM BRANCH, customer
WHERE BRANCH.city = customer.city;

Output

+ Options	
CNAME	CITY
KRANTI	BOMBAY
MADHURI	NAGPUR
NAREN	BOMBAY
PRAMOD	NAGPUR
SHIVANI	BOMBAY
SUNIL	DELHI

3.Give names of customers who are borrowers as well as depositors and having city NAGPUR.
SELECT C1.CNAME FROM CUSTOMER C1,DEPOSIT D1,BORROW B1 WHERE C1.CITY=
'NAGPUR' AND C1.CNAME=D1.CNAME AND D1.CNAME = B1.CNAME;

Output

	CNAME
ete	MADHURI
ete	PRAMOD

4. Give names of borrowers having deposit amount greater than 1000 and loan amount greater than 2000.

```
SELECT BR1.CNAME, BR1.AMOUNT, D1.CNAME, D1.AMOUNT FROM BORROW BR1
,DEPOSIT D1 WHERE D1.CNAME = BR1.CNAME AND D1.AMOUNT >
1000 AND BR1.AMOUNT > 2000;
```

Output

CNAME	AMOUNT	CNAME	AMOUNT
MEHUL	5000.00	MEHUL	3500.00
PRAMOD	8000.00	PRAMOD	3000.00
KRANTI	3000.00	KRANTI	5000.00

5. Give names of depositors having the same branch as the branch of Sunil

```
SELECT D1.CNAME FROM DEPOSIT D1 WHERE D1.BNAME IN (SELECT D2.BNAME FROM
DEPOSIT D2 WHERE D2.CNAME = 'SUNIL');
```

Output

CNAME
SUNIL

6. Give names of borrowers having loan amount greater than the loan amount of Pramod

```
SELECT BR1.CNAME,BR1.AMOUNT FROM BORROW BR1 WHERE BR1.AMOUNT > ALL
(SELECT BR2.AMOUNT FROM BORROW BR2 WHERE BR2.CNAME = 'PRAMOD');
```

Output

CNAME	AMOUNT
-------	--------

7. Give the name of the customer living in the city where branch of depositor Sunil is located.

```
SELECT C.CNAME FROM CUSTOMER C WHERE C.CITY IN (SELECT B.CITY FROM
BRANCH B WHERE B.BNAME IN (SELECT D.BNAME FROM DEPOSIT D WHERE D.CNAME=
'SUNIL'));
```

Output

CNAME

8. Give branch city and living city of Pramod

```
SELECT B1.CITY , C1.CITY FROM BRANCH B1,CUSTOMER C1, DEPOSIT D1 WHERE
C1.CNAME = 'PRAMOD' AND C1.CNAME = D1.CNAME AND D1.BNAME = B1.BNAME;
```

Output

+ Options	
CITY	CITY
BANGALORE	NAGPUR

9. Give branch city of Sunil and branch city of Anil

```
SELECT B1.CITY FROM DEPOSIT D1, BRANCH B1 WHERE D1.BNAME = B1.BNAME
AND D1.CNAME IN ('SUNIL' , 'ANIL');
```

Output

CITY
Delete NAGPUR

10. Give the living city of Anil and the living city of Sunil

```
SELECT C1.CNAME, C1.CITY FROM CUSTOMER C1 WHERE C1.CNAME =
'ANIL' OR C1.CNAME = 'SUNIL';
```

	CNAME	CITY
Edit Copy Delete	ANIL	CALCUTTA
Edit Copy Delete	SUNIL	DELHI