# S20230010225 DBMS Lab 4

Q1a

```
15
16 •  select count(emp_name) as noofnames from employee;
17
18
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| noofnames |
|---|
| 20 |

Result 2

Output

Action Output

| # | Time | Action | Message |
|---|---|---|---|
| 10 | 14:59:30 | select * from employee LIMIT 0, 1000 | 20 row(s) returned |

Q1b

```
17
18 •  select emp_dept, max(income) as highestsal from employee group by emp_dept;
19
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| emp_dept | highestsal |
|---|---|
| Finance | 280000 |
| HR | 120000 |
| Management | 500000 |
| Sales | 30000 |
| Accounts | 800000 |

```
20 •  select max(income) as highestsal from employee;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| highestsal |
|---|
| 800000 |

Result 5

Q1c

```
21
22    -- select * from employee where income between 100000 and 500000 and income!=120000;
23
24
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| emp_id | emp_name | emp_dept | emp_age | place | income | doj |
|---|---|---|---|---|---|---|
| 2505 | peter | Finance | 32 | Newyork | 100000 | 2002-08-25 |
| 2507 | Donald | Finance | 28 | Arizona | 100000 | 1995-12-26 |
| 2508 | Obama | Management | 35 | Florida | 500000 | 1990-10-30 |
| 2512 | Mac | Finance | 40 | Florida | 280000 | 1970-06-09 |
| 2515 | peter | Finance | 32 | Newyork | 100000 | 1989-10-10 |
| 2517 | Donald | Finance | 28 | Arizona | 100000 | 1970-06-09 |
| 2518 | Obama | Management | 35 | Florida | 500000 | 2020-10-25 |

employee 7 ×

Read On

Q1d

```
23
24 •  select count(income) from employee where income >100000;
25
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| count(income) |
|---|
| 10 |

Result 8 ×

Output

Action Output

Q1e

```
18      -- select emp_dept, max(income) as highestsal from employee group by emp_dept;
19
20      -- select max(income) as highestsal from employee;
21
22      -- select * from employee where income between 100000 and 500000 and income!=120000;
23
24      -- select count(income) from employee where income >100000;
25
26 •    select * from employee order by income;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| emp_id | emp_name | emp_dept | emp_age | place | income | doj |
|---|---|---|---|---|---|---|
| 2509 | Linklon | HR | 25 | Georgia | 25000 | 2008-08-08 |
| 2519 | Linklon | HR | 25 | Georgia | 25000 | 2000-01-01 |
| 2510 | Kane | Sales | 29 | Alaska | 30000 | 2000-01-01 |
| 2520 | Kane | Sales | 29 | Alaska | 30000 | 2008-08-08 |
| 2511 | Adam | Management | 38 | California | 54000 | 2020-10-25 |
| 2521 | Adam | Management | 38 | California | 54000 | 1990-10-30 |
| 2505 | peter | Finance | 32 | Newyork | 100000 | 2002-08-25 |
| 2507 | Donald | Finance | 28 | Arizona | 100000 | 1995-12-26 |
| 2515 | peter | Finance | 32 | Newyork | 100000 | 1989-10-10 |

employee 9 ×

Q1f

```
27
28 •    select emp_dept, count(*) as no_employees, max(income) as highestsal from employee group by emp_dept;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| emp_dept | no_employees | highestsal |
|---|---|---|
| Finance | 6 | 280000 |
| HR | 4 | 120000 |
| Management | 4 | 500000 |
| Sales | 2 | 30000 |
| Accounts | 4 | 800000 |

Result 10 ×

Q1 7

```
29
30 •    select place, count(*) as no_employees from employee group by place
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| place | no_employees |
|---|---|
| Newyork | 2 |
| California | 4 |
| Arizona | 2 |
| Florida | 4 |
| Georgia | 2 |
| Alaska | 2 |
| India | 4 |

Result 12 ×

Q1 8

```
31
32 • select place, count(*) as no_employee from employee group by place order by no_employee desc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| place | no_employee |
|---|---|
| California | 4 |
| Florida | 4 |
| India | 4 |
| Newyork | 2 |
| Arizona | 2 |
| Georgia | 2 |
| Alaska | 2 |

Q1 9

```
33
34 • select place, count(*) as no_employee from employee group by place having no_employee>1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| place | no_employee |
|---|---|
| Newyork | 2 |
| California | 4 |
| Arizona | 2 |
| Florida | 4 |
| Georgia | 2 |
| Alaska | 2 |
| India | 4 |

Q1 10

```
35
36 • select place, count(*) as no_employee from employee where place!='California' group by place having no_employee>1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| place | no_employee |
|---|---|
| Newyork | 2 |
| Arizona | 2 |
| Florida | 4 |
| Georgia | 2 |
| Alaska | 2 |
| India | 4 |

## Q2 importing data from csv, creatinfg tables

```
37
38 • Create table customer (customer_name char(20),customer_street char(30),customer_city char(30), primary key(customer_name));
39
40 • Create table branch (branch_name char(15),branch_city char(30),assets
41   numeric(16,2),primary key(branch_name));
42
43 • Create table account (account_number char(15),branch_name char (15),balance
44   numeric(12,2),primary key(account_number),foreign key (branch_name)
45   references branch(branch_name));
46
47 • Create table depositor(customer_name char(20),account_number char(10),PRIMARY
48   KEY(customer_name,account_number),FOREIGN KEY (customer_name)
49   REFERENCES customer(customer_name),FOREIGN KEY (account_number)
50   REFERENCES account(account_number));
51
52 • Create table loan(loan_number varchar(6),branch_name char(15),amount int,PRIMARY
53   KEY(loan_number),FOREIGN KEY (branch_name) REFERENCES
54   branch(branch_name));
55
56 • Create table borrower(customer_name char(20),loan_number varchar(6),PRIMARY
57   KEY(customer_name,loan_number),FOREIGN KEY (customer_name) REFERENCES
```

## Q2 2 with renaming

```
110 • SELECT c.customer_name, l.loan_number, l.amount
111   FROM customer AS c
112   INNER JOIN borrower AS b ON c.customer_name = b.customer_name
113   INNER JOIN loan AS l ON b.loan_number = l.loan_number;
114
115
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

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

## Q2 2 without renaming

```
69 • select customer.customer_name, loan.loan_number, loan.amount
70   from customer
71   inner join borrower ON customer.customer_name = borrower.customer_name
72   inner join loan ON borrower.loan_number = loan.loan_number;
73
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

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

Q2 3

```
74  select customer.customer_name, loan.loan_number, loan.amount
75  from customer
76  inner join borrower ON customer.customer_name = borrower.customer_name
77  inner join loan ON borrower.loan_number = loan.loan_number where loan.branch_name="Perryridge";
78
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| customer_name | loan_number | amount |
|---|---|---|
| Hayes | L-15 | 1500 |
| Adams | L-16 | 1300 |

Q2 4

```
79  select branch_name from branch where assets > (select min(assets) from branch where branch_city='Brooklyn')
80
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

| branch_name |
|---|
| Downtown |
| Round Hill |
| NULL |

Q2 5

```
80
81  select borrower.customer_name from borrower natural join loan where branch_name="Perryridge" order by customer_name;
82
83
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| customer_name |
|---|
| Adams |
| Hayes |

Q2 6

```
84 •  select * from loan order by amount desc, loan_number asc;
85
86
87
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

| loan_number | branch_name | amount |
|---|---|---|
| L-23 | Redwood | 2000 |
| L-14 | Downtown | 1500 |
| L-15 | Perryridge | 1500 |
| L-16 | Perryridge | 1300 |
| L-17 | Downtown | 1000 |
| L-11 | Round Hill | 900 |
| L-93 | Mianus | 500 |

Q2 7

```
85
86 •  select avg(balance) from account
87
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| avg(balance) |
|---|
| 614.285714 |

Q2 8

```
87
88 •  select count(*) from customer
89
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| count(*) |
|---|
| 12 |

Q2 9

```
89
90 •  select sum(amount) from loan
91
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| sum(amount) |
|---|
| 8700 |

Q2 10

```
91
92 •  select avg(balance) from account where branch_name="perryridge";
93
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| avg(balance) |
|---|
| 400.000000 |

Q2 11

```
93
94 •  select branch_name, avg(balance) from account group by branch_name;
95
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| branch_name | avg(balance) |
|---|---|
| Brighton | 825.000000 |
| Downtown | 500.000000 |
| Mianus | 700.000000 |
| Perryridge | 400.000000 |
| Redwood | 700.000000 |
| Round Hill | 350.000000 |

Result 42

Q2 12

```
95
96 •  select branch_name, avg(balance) from account where balance>1200 group by branch_name;
97
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| branch_name | avg(balance) |
|---|---|

Q2 13

```
97
98 •  select branch_name, count(*) as no_of_depositors from account natural join depositor group by branch_name;
99
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| branch_name | no_of_depositors |
|---|---|
| Brighton | 2 |
| Downtown | 1 |
| Mianus | 1 |
| Perryridge | 1 |
| Redwood | 1 |
| Round Hill | 1 |

Q2 14

```
100 •  select customer_name, avg(balance) as avg_bal from customer natural join depositor natural join account
101    where customer_city = "Harrison"
102    group by customer_name having count(account_number >=3);
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| customer_name | avg_bal |
|---|---|
| Hayes | 400.000000 |
| Jones | 750.000000 |

SQL CODE:

```
-- create database S20230010225_Lab4
```

```
-- create table employee(
-- emp_id int,
--  emp_name varchar(20),
--  emp_dept varchar(20),
-- emp_age int,
--  place varchar(20),
--  income int,
--  doj date);
--
--  alter table employee auto_increment=2505;


-- select * from employee


-- select count(emp_name) as noofnames from employee;


-- select emp_dept, max(income) as highestsal from employee group by emp_dept;


-- select max(income) as highestsal from employee;


-- select * from employee where income between 100000 and 500000 and
income!=120000;


-- select count(income) from employee where income >100000;


-- select * from employee order by income;


-- select emp_dept, count(*) as no_employees, max(income) as highestsal from
employee group by emp_dept;
```

```
-- select place, count(*) as no_employees from employee group by place

-- select place, count(*) as no_employee from employee group by place order by
no_employee desc;

-- select place, count(*) as no_employee from employee group by place having
no_employee>1;

-- select place, count(*) as no_employee from employee where place!='California'
group by place having no_employee>1;



-- create table customer (customer_name char(20),customer_street
char(30),customer_city
-- char(30),PRIMARY KEY(customer_name));

-- Create table branch (branch_name char(15),branch_city char(30),assets
-- numeric(16,2),PRIMARY KEY(branch_name));

-- Create table account (account_number char(15),branch_name char (15),balance
-- numeric(12,2),PRIMARY KEY(account_number),FOREIGN KEY (branch_name)
-- REFERENCES branch(branch_name));

-- Create table depositor(customer_name char(20),account_number char(10),PRIMARY
-- KEY(customer_name,account_number),FOREIGN KEY (customer_name)
-- REFERENCES customer(customer_name),FOREIGN KEY (account_number)
-- REFERENCES account(account_number));
```

```
-- Create table loan(loan_number varchar(6),branch_name char(15),amount
int,PRIMARY

-- KEY(loan_number),FOREIGN KEY (branch_name) REFERENCES

-- branch(branch_name));


-- Create table borrower(customer_name char(20),loan_number varchar(6),PRIMARY

-- KEY(customer_name,loan_number),FOREIGN KEY (customer_name) REFERENCES

-- customer(customer_name),FOREIGN KEY (loan_number) REFERENCES

-- loan(loan_number));



-- SELECT c.customer_name, l.loan_number, l.amount

-- FROM customer AS c

-- INNER JOIN borrower AS b ON c.customer_name = b.customer_name

-- INNER JOIN loan AS l ON b.loan_number = l.loan_number;


-- select customer.customer_name, loan.loan_number, loan.amount

-- from customer

-- inner join borrower ON customer.customer_name = borrower.customer_name

-- inner join loan ON borrower.loan_number = loan.loan_number;


-- select customer.customer_name, loan.loan_number, loan.amount

-- from customer

-- inner join borrower ON customer.customer_name = borrower.customer_name

-- inner join loan ON borrower.loan_number = loan.loan_number where
loan.branch_name="Perryridge";


-- select branch_name from branch where assets > (select min(assets) from branch
where branch_city='Brooklyn')
```

```
-- select borrower.customer_name from borrower natural join loan where
branch_name="Perryridge" order by customer_name;



-- select * from loan order by amount desc, loan_number asc;


-- select avg(balance) from account


-- select count(*) from customer


-- select sum(amount) from loan


-- select avg(balance) from account where branch_name="perryridge";


-- select branch_name, avg(balance) from account group by branch_name;


-- select branch_name, avg(balance) from account where balance>1200 group by
branch_name;


-- select branch_name, count(*) as no_of_depositors from account natural join
depositor group by branch_name;


-- select customer_name, avg(balance) as avg_bal from customer natural join depositor
natural join account
-- where customer_city = "Harrison"
-- group by customer_name having count(account_number >=3);
```