

**Information System Management Lab
BCOM 307**

Assignment #15

Submitted by:

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Assignment No. 15

Unit No:

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Instructions for Students:

1. **All Questions are Compulsory.**
2. The student should attach proper cover page for each assignment clearly mentioning the Assignment No.
3. Each assignment should be prepared by the student individually with proper explanation and screenshots.
4. A4 size ruled sheets should be used for the assignment.
5. Assignment pages should be serially numbered at the bottom of page.

During online education mode, upload scanned copy of the complete assignment including cover page latest by due date.

Question No.	Question	CO No.
1	Return the number of non-null values for salary column in the client_master table.	CO1, CO2, CO3, CO4
2	Show the total number of records in client_master table.	
3	Show the distinct state number in client_master table.	
4	Show the total balance due in client_master table.	
5	Show the average salary of client_master	
6	Show the minimum salary of client_master.	
7	Show the maximum balance of client_master.	

ASSIGNMENT 15 - AGGREGATE FUNCTIONS**Task 1 : Return the number of non-null values for salary column in the client_master table.**

This task can be completed using the **COUNT()** aggregate function. An aggregate function is a function where values of multiple rows are grouped together as input on certain criteria to form single value of more significant meaning. Count() returns the number of rows where expression is not null. The syntax is -

```
Select count([distinct] [<all>] <exp>) from <tablename>;
```

The screenshot shows a database IDE window titled "ISM_Lab_Assignment_15-YashJain_BCom5A". The SQL editor contains the following code:

```
1 • use student_record;  
2  
3 #counting number of not null values in the salary column of the table  
4 • select count(salary) from client_master;  
5
```

Below the editor is the "Result Grid" showing the output of the query:

#	count(salary)
1	3

Task 2: Show the total number of records in client_master table.

This task can be completed using the **COUNT(*)** aggregate function. It returns the number of rows in the table, including duplicates and rows with null values.

The screenshot shows the same database IDE window. The SQL editor contains the following code:

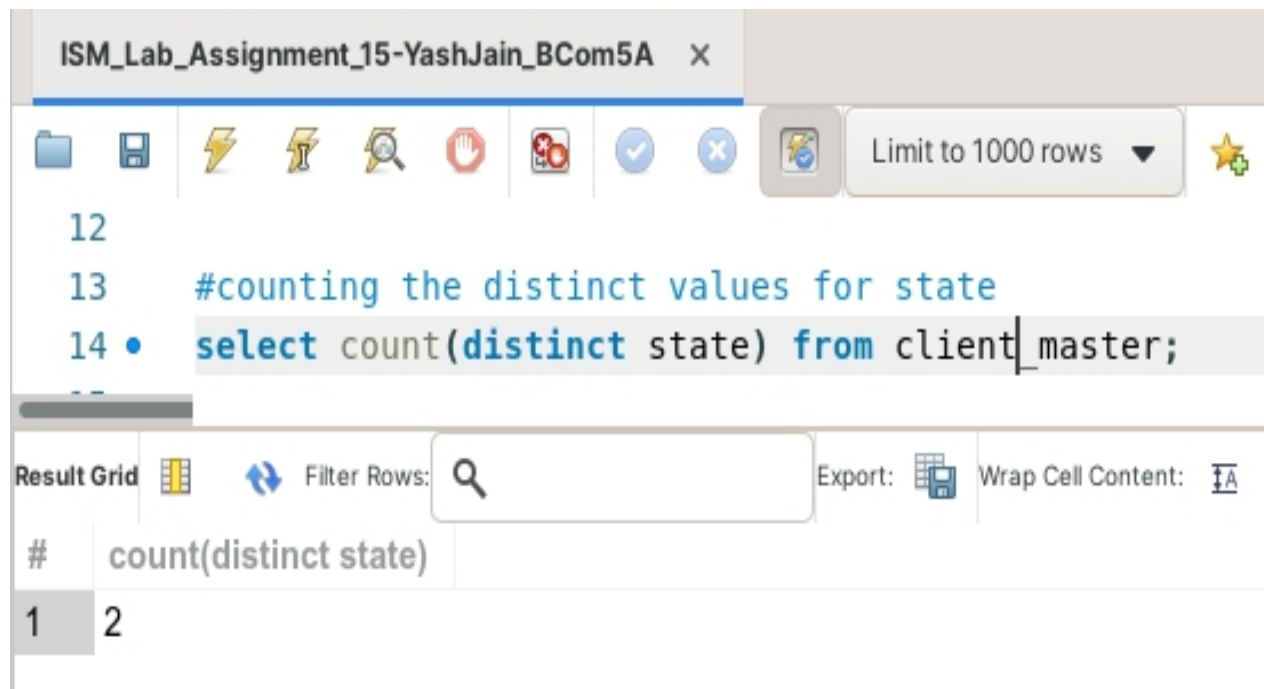
```
9  
10 #counting the total records in the table  
11 • select count(*) from client_master;  
12
```

Below the editor is the "Result Grid" showing the output of the query:

#	count(*)
1	4

Task 3: Show the distinct state number in client_master table.

This task can be completed using the **COUNT() aggregate function**, along with the **Distinct** clause.



The screenshot shows a database query editor window titled "ISM_Lab_Assignment_15-YashJain_BCom5A". The query editor contains the following SQL code:

```
12
13 #counting the distinct values for state
14 • select count(distinct state) from client_master;
```

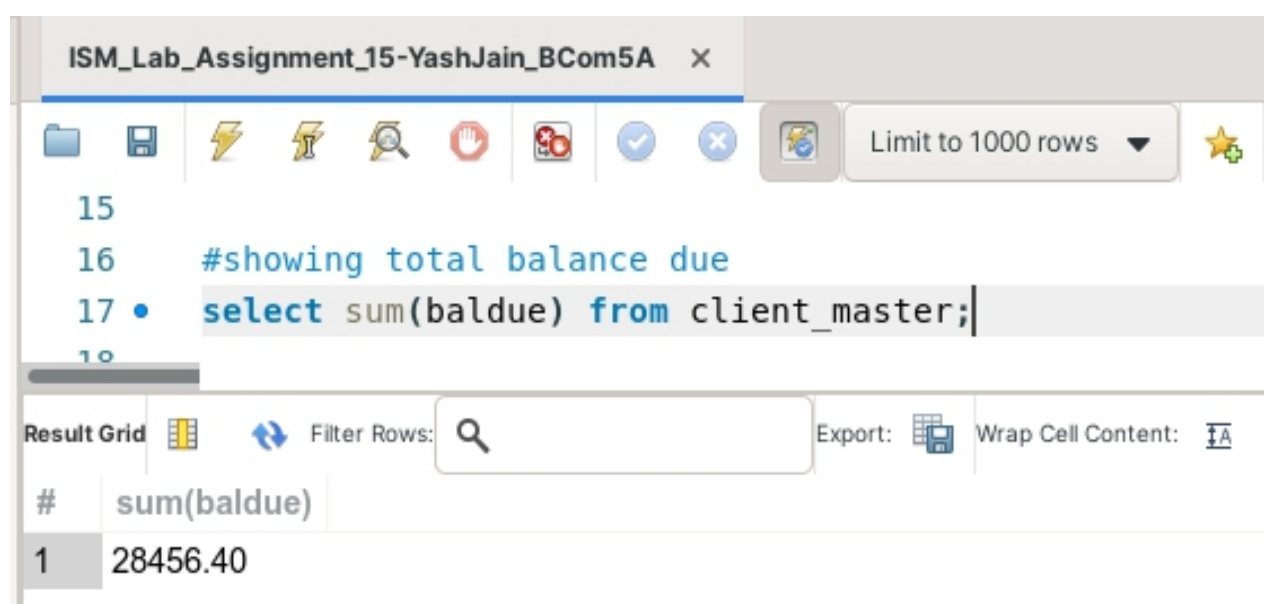
Below the query editor, the "Result Grid" is displayed. It shows a single row with the following data:

#	count(distinct state)
1	2

Task 4: Show the total balance due in client_master table.

This task can be completed using the **SUM() aggregate function**. The sum() function returns the sum of 'n' values of an attribute in a table. The syntax for this is -

```
Select sum([distinct] [<all>] <n>) from <tablename>;
```



The screenshot shows a database query editor window titled "ISM_Lab_Assignment_15-YashJain_BCom5A". The query editor contains the following SQL code:

```
15
16 #showing total balance due
17 • select sum(baldue) from client_master;
```

Below the query editor, the "Result Grid" is displayed. It shows a single row with the following data:

#	sum(baldue)
1	28456.40

Task 5: Show the average salary of client_master.

This task can be completed using the **AVG() aggregate function**. The avg() function returns the average of 'n' values of an attribute in a table. The syntax for this is -

```
Select avg([distinct] [<all>] <n>) from <tablename>;
```

The screenshot shows a database query editor window titled "ISM_Lab_Assignment_15-YashJain_BCom5A". The query editor contains the following SQL query:

```
18  
19 #showing average salary  
20 • select avg(salary) from client_master;
```

Below the query editor, the "Result Grid" is displayed. It shows a single row with the following data:

#	sum(baldue)
1	28456.40

Task 6: Show the minimum salary of client_master.

This task can be completed using the **MIN() aggregate function**. The min() function returns the minimum of 'n' values of an attribute in a table. The syntax for this is -

```
Select min([distinct] [<all>] <n>) from <tablename>;
```

The screenshot shows a database query editor window titled "ISM_Lab_Assignment_15-YashJain_BCom5A". The query editor contains the following SQL query:

```
21  
22 #showing minimum salary  
23 • select min(salary) from client_master;
```

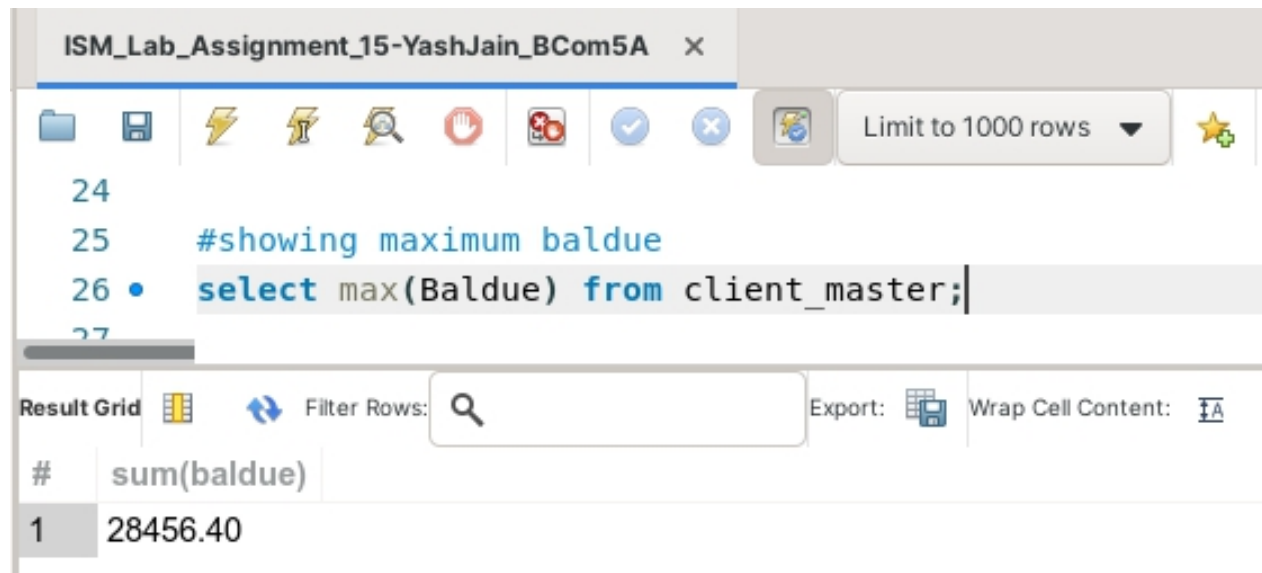
Below the query editor, the "Result Grid" is displayed. It shows a single row with the following data:

#	sum(baldue)
1	28456.40

Task 7: Show the maximum balance of client_master.

This task can be completed using the **MAX() aggregate function**. The max() function returns the maximum of 'n' values of an attribute in a table. The syntax for this is -

```
Select min([distinct] [<all>] <n>) from <tablename>;
```



The screenshot shows a database management tool interface. The title bar reads "ISM_Lab_Assignment_15-YashJain_BCom5A". The toolbar includes icons for file operations, a "Limit to 1000 rows" dropdown, and a star icon. The SQL editor contains the following text:

```
24  
25 #showing maximum baldue  
26 • select max(Baldue) from client_master;  
27
```

Below the editor is the "Result Grid" section. It includes a "Filter Rows:" search box, an "Export:" button, and a "Wrap Cell Content:" checkbox. The result grid displays the following data:

#	sum(baldue)
1	28456.40