



**NOTRE DAME UNIVERSITY**  
**BANGLADESH**

**Assignment No. 03**

**Submitted by:**

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**Assignment Topic: (a) Create Database  
(b) Create Tables  
(c) SQL Queries**

**Submitted to:**

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❑ Create the following table 'order' in your database.

ord_no	purch_amt	ord_date	customer_id	salesman_id
70001	150.5	2021-10-05	3005	5002
70009	270.65	2021-09-10	3001	5005
70002	65.26	2021-10-05	3002	5001
70004	110.5	2021-08-17	3009	5003
70007	948.5	2021-09-10	3005	5002
70005	2400.6	2021-07-27	3007	5001
70008	5760	2021-09-10	3002	5001
70010	1983.43	2021-10-10	3004	5006
70003	2480.4	2021-10-10	3009	5003
70012	250.45	2021-06-27	3008	5002
70011	75.29	2021-08-17	3003	5007
70013	3045.6	2021-04-25	3002	5001

❑ Create the following table 'customer' in your database.

customer_id	cust_name	city	grade	salesman_id
3002	Nawab Salimullah	Dhaka	100	5001
3007	Abdul Halim	Dhaka	200	5001
3005	Purna Das	Comilla	200	5002
3008	Shamsul Huda	Chottogram	300	5002
3004	Surya Sen	Bogra	300	5006
3009	Haji Sharatullah	Khulna	100	5003
3003	Pritilata Waddedar	Sylhet	200	5007
3001	Abdus Salam	Chottogram	400	5005

❑ Create the following table 'salesman' in your database.

salesman_id	name	city	commission
5001	Nasima Akhter	Dhaka	0.15
5002	Amit Chakma	Bogra	0.13
5005	Azizul Haque	Chottogram	0.11
5006	Tanzima Hoque	Bogra	0.14
5007	Fazle Hossain	Barisal	0.13
5003	Zahid Hasan	Mymensingh	0.12

Ans:

```
MariaDB [Shop]> select * from orders;
+-----+-----+-----+-----+-----+
| ord_no | purch_amt | ord_date  | customer_id | salesman_id |
+-----+-----+-----+-----+-----+
| 70001  | 150.5     | 2021-10-05 | 3005        | 5002        |
| 70002  | 65.26    | 2021-10-05 | 3002        | 5001        |
| 70003  | 2480.4   | 2021-10-10 | 3009        | 5003        |
| 70004  | 110.5     | 2021-08-17 | 3009        | 5003        |
| 70005  | 2400.6   | 2021-07-27 | 3007        | 5001        |
| 70007  | 948.5    | 2021-09-10 | 3005        | 5002        |
| 70008  | 5760     | 2021-09-10 | 3002        | 5001        |
| 70009  | 270.65   | 2021-09-10 | 3001        | 5005        |
| 70010  | 1983.43  | 2021-10-10 | 3004        | 5006        |
| 70011  | 75.29    | 2021-08-17 | 3003        | 5007        |
| 70012  | 250.45   | 2021-06-27 | 3008        | 5002        |
| 70013  | 3045.6   | 2021-04-25 | 3002        | 5001        |
+-----+-----+-----+-----+-----+
12 rows in set (0.000 sec)
```

Table: Orders

```
MariaDB [Shop]> select * from customer;
+-----+-----+-----+-----+-----+
| customer_id | cust_name          | city        | grade | salesman_id |
+-----+-----+-----+-----+-----+
| 3001        | Abdus Salam       | Chottogram  | 400   | 5005        |
| 3002        | Nawab Salimullah  | Dhaka       | 100   | 5001        |
| 3003        | Peitilata Waddedar | Sylhet      | 200   | 5007        |
| 3004        | Surya Sen         | Bogra       | 300   | 5006        |
| 3005        | Purna Das         | Cumilla     | 200   | 5002        |
| 3007        | Abdul Halim       | Dhaka       | 200   | 5001        |
| 3008        | Shamsul Huda     | Chottogram  | 300   | 5002        |
| 3009        | Haji Sharatullah  | Khulna     | 100   | 5003        |
+-----+-----+-----+-----+-----+
8 rows in set (0.000 sec)
```

Table: customers

```

MariaDB [Shop]> select * from salesman;
+-----+-----+-----+-----+
| salesman_id | name          | city      | commission |
+-----+-----+-----+-----+
|          5001 | Nasima Akhter | Dhaka     |          0.15 |
|          5002 | Amit Chakma   | Bogra     |          0.13 |
|          5003 | Zahid Hasan   | Mymensingh |          0.12 |
|          5005 | Azizul Haque  | Chottogram |          0.11 |
|          5006 | Tanzima Hoque | Bogra     |          0.14 |
|          5007 | Fazle Hossain | Barisal   |          0.13 |
+-----+-----+-----+-----+
6 rows in set (0.000 sec)

```

Table: salesman

**Answer the following queries with this table:**

1. Write a SQL statement to find the total purchase amount of all orders.

Ans: -> SELECT SUM(purch\_amt) AS total\_purchase\_amount  
-> FROM orders;

```

MariaDB [Shop]> select sum(purch_amt) as total_purchase_amount
-> from orders;
+-----+
| total_purchase_amount |
+-----+
| 17541.180145263672 |
+-----+
1 row in set (0.000 sec)

```

2. Write a SQL statement to find the average purchase amount of all orders.

Ans: -> SELECT AVG(purch\_amt) AS average\_purchase\_amount  
-> FROM orders;

```

MariaDB [Shop]> SELECT AVG(purch_amt) AS average_purchase_amount
-> FROM orders;
+-----+
| average_purchase_amount |
+-----+
| 1461.765012105306 |
+-----+
1 row in set (0.000 sec)

```

3. Write a SQL statement to find the number of salesmen currently listing for all their customers.

Ans: -> SELECT COUNT(DISTINCT salesman\_id) AS number\_of\_salesman  
-> FROM customer;

```
MariaDB [Shop]> SELECT COUNT(DISTINCT salesman_id) AS number_of_salesman  
-> FROM customer;  
+-----+  
| number_of_salesman |  
+-----+  
|          6 |  
+-----+  
1 row in set (0.000 sec)
```

4. Write a SQL statement know how many customer have listed their names.

Ans: -> SELECT COUNT(DISTINCT customer\_id) AS number\_of\_customers  
-> FROM customer;

```
MariaDB [Shop]> SELECT COUNT(DISTINCT customer_id) AS number_of_customers  
-> FROM customer;  
+-----+  
| number_of_customers |  
+-----+  
|          8 |  
+-----+  
1 row in set (0.000 sec)
```

5. Write a SQL statement find the number of customers who gets at least a gradation for his/her performance.

Ans: -> SELECT COUNT(DISTINCT customer\_id) AS number\_of\_customers  
-> FROM customer  
-> WHERE grade IS NOT NULL AND grade > 0 ;

```
MariaDB [Shop]> SELECT COUNT(DISTINCT customer_id) AS number_of_customers  
-> FROM customer  
-> WHERE grade IS NOT NULL AND grade > 0 ;  
+-----+  
| number_of_customers |  
+-----+  
|          8 |  
+-----+  
1 row in set (0.000 sec)
```

6. Write a SQL statement to get the maximum purchase amount of all the orders.

Ans: -> SELECT MAX(purch\_amt) AS max\_purchase\_amount  
-> FROM orders;

```
MariaDB [Shop]> SELECT MAX(purch_amt) AS max_purchase_amount  
-> FROM orders;  
+-----+  
| max_purchase_amount |  
+-----+  
|                5760 |  
+-----+  
1 row in set (0.000 sec)
```

7. Write a SQL statement to get the minimum purchase amount of all the orders.

Ans: -> SELECT MIN(purch\_amt) AS min\_purchase\_amount  
-> FROM orders;

```
MariaDB [Shop]> SELECT MIN(purch_amt) AS min_purchase_amount  
-> FROM orders;  
+-----+  
| min_purchase_amount |  
+-----+  
|                65.26 |  
+-----+  
1 row in set (0.000 sec)
```

8. Write a SQL statement which selects the highest grade for each of the cities of the customers.

Ans: -> SELECT city, MAX(grade) AS highest\_grade  
-> FROM customer  
-> GROUP BY city;

```
MariaDB [Shop]> SELECT city, MAX(grade) AS highest_grade  
-> FROM customer  
-> GROUP BY city;
```

city	highest_grade
Bogra	300
Chottogram	400
Cumilla	200
Dhaka	200
Khulna	100
Sylhet	200

6 rows in set (0.001 sec)

9. Write a SQL statement to find the highest purchase amount ordered by the each customer with their ID and highest purchase amount.

Ans: -> SELECT customer\_id, MAX(purch\_amt) AS highest\_purchase\_amount  
-> FROM orders  
-> GROUP BY customer\_id;

```
MariaDB [Shop]> SELECT customer_id, MAX(purch_amt) AS highest_purchase_amount  
-> FROM orders;
```

customer_id	highest_purchase_amount
3005	5760

1 row in set (0.000 sec)

```
MariaDB [Shop]> SELECT customer_id, MAX(purch_amt) AS highest_purchase_amount  
-> FROM orders  
-> GROUP BY customer_id;
```

customer_id	highest_purchase_amount
3001	270.65
3002	5760
3003	75.29
3004	1983.43
3005	948.5
3007	2400.6
3008	250.45
3009	2480.4

8 rows in set (0.000 sec)

10. Write a SQL statement to find the highest purchase amount ordered by each customer on a particular date with their ID, order date and highest purchase amount.

Ans: -> SELECT customer\_id, ord\_date, MAX(purch\_amt) AS highest\_purchase\_amount  
-> FROM orders  
-> GROUP BY customer\_id, ord\_date;

```
MariaDB [Shop]> SELECT customer_id, ord_date, MAX(purch_amt) AS highest_purchase_amount  
-> FROM orders  
-> GROUP BY customer_id, ord_date;
```

customer_id	ord_date	highest_purchase_amount
3001	2021-09-10	270.65
3002	2021-04-25	3045.6
3002	2021-09-10	5760
3002	2021-10-05	65.26
3003	2021-08-17	75.29
3004	2021-10-10	1983.43
3005	2021-09-10	948.5
3005	2021-10-05	150.5
3007	2021-07-27	2400.6
3008	2021-06-27	250.45
3009	2021-08-17	110.5
3009	2021-10-10	2480.4

12 rows in set (0.000 sec)

11. Write a SQL statement to find the highest purchase amount on a date '2021-08-17' for each salesman with their ID.

Ans: -> SELECT salesman\_id, MAX(purch\_amt) AS highest\_purchase\_amount  
-> FROM orders  
-> WHERE ord\_date = '2021-08-17'  
-> GROUP BY salesman\_id;

```
MariaDB [Shop]> SELECT salesman_id, MAX(purch_amt) AS highest_purchase_amount  
-> FROM orders  
-> WHERE ord_date = '2021-08-17'  
-> GROUP BY salesman_id;
```

salesman_id	highest_purchase_amount
5003	110.5
5007	75.29

2 rows in set (0.000 sec)

12. Write a SQL statement to find the highest purchase amount with their ID and order date, for only those customers who have highest purchase amount in a day is more than 2000.

Ans: -> SELECT customer\_id, Ord\_date, MAX(purch\_amt) AS highest\_purchase\_amount  
-> FROM orders  
-> GROUP BY customer\_id, ord\_date  
-> HAVING MAX(purch\_amt) > 2000;

```
MariaDB [shop]> SELECT customer_id, Ord_date, MAX(purch_amt) AS highest_purchase_amount  
-> FROM orders  
-> GROUP BY customer_id, ord_date  
-> HAVING MAX(purch_amt) > 2000 ;
```

customer_id	Ord_date	highest_purchase_amount
3001	2021-09-10	270.65
3002	2021-04-25	3045.6
3002	2021-09-10	5760
3004	2021-10-10	1983.43
3005	2021-09-10	948.5
3007	2021-07-27	2400.6
3008	2021-06-27	250.45
3009	2021-10-10	2480.4

8 rows in set (0.000 sec)

13. Write a SQL statement to find the highest purchase amount with their ID and order date, for those customers who have a higher purchase amount in a day is within the range 2000 and 6000.

Ans: -> SELECT customer\_id, ord\_date, MAX(purch\_amt) AS highest\_purchase\_amount  
-> FROM orders  
-> GROUP BY customer\_id, ord\_date  
-> HAVING MAX(Purch\_amt) BETWEEN 2000 AND 6000;

```
MariaDB [shop]> SELECT customer_id, ord_date, MAX(purch_amt) AS highest_purchase_amount  
-> FROM orders  
-> GROUP BY customer_id, ord_date  
-> HAVING MAX(purch_amt) BETWEEN 2000 AND 6000;
```

customer_id	ord_date	highest_purchase_amount
3002	2021-04-25	3045.6
3002	2021-09-10	5760
3007	2021-07-27	2400.6
3009	2021-10-10	2480.4

4 rows in set (0.000 sec)

14. Write a SQL statement to find the highest purchase amount with their ID and order date, for only those customers who have a higher purchase amount in a day is within the list 2000, 3000, 5760 and 6000.

Ans: -> SELECT customer\_id, ord\_date, MAX(purch\_amt) AS highest\_purchase\_amount  
-> FROM orders  
-> GROUP BY customer\_id, ord\_date  
-> HAVING MAX(purch\_amt) IN (2000, 3000, 5760, 6000);

```
MariaDB [shop]> SELECT customer_id, ord_date, MAX(purch_amt) AS highest_purchase_amount  
-> FROM orders  
-> GROUP BY customer_id, ord_date  
-> HAVING MAX(purch_amt) IN (2000, 3000, 5760, 6000);
```

customer_id	ord_date	highest_purchase_amount
3002	2021-09-10	5760

1 row in set (0.000 sec)

15. Write a SQL statement to find the highest purchase amount with their ID, for only those customers whose ID is within the range 3002 and 3007.

Ans: -> SELECT customer\_id, MAX(purch\_amt) AS highest\_purchase\_amount  
-> FROM orders  
-> WHERE customer\_id BETWEEN 3002 AND 3007  
-> GROUP BY customer\_id;

```
MariaDB [shop]> SELECT customer_id, MAX(purch_amt) AS highest_purchase_amount  
-> FROM orders  
-> WHERE customer_id BETWEEN 3002 AND 3007  
-> GROUP BY customer_id;
```

customer_id	highest_purchase_amount
3002	5760
3003	75.29
3004	1983.43
3005	948.5
3007	2400.6

5 rows in set (0.000 sec)

16. Write a SQL statement to display customer details (ID and purchase amount) whose IDs are within the range 3002 and 3007 and highest purchase amount is more than 1000.

Ans: -> SELECT customer\_id, MAX(purch\_amt) AS highest\_purchase\_amount  
-> FROM orders  
-> WHERE customer\_id BETWEEN 3002 AND 3007  
-> GROUP BY customer\_id  
-> HAVING MAX(purch\_amt) > 1000;

```
MariaDB [shop]> SELECT customer_id, MAX(purch_amt) AS highest_purchase_amount  
-> FROM orders  
-> WHERE customer_ID BETWEEN 3002 AND 3007  
-> GROUP BY customer_id  
-> HAVING MAX(purch_amt) > 1000;
```

customer_id	highest_purchase_amount
3002	5760
3004	1983.43
3007	2400.6

3 rows in set (0.000 sec)

17. Write a SQL statement to find the highest purchase amount with their ID, for only those salesmen whose ID is within the range 5003 and 5008.

Ans: -> SELECT salesman\_id, MAX(purch\_amt) AS highest\_purchase\_amount  
-> FROM orders  
-> WHERE salesman\_id BETWEEN 5003 AND 5008  
-> GROUP BY salesman\_id;

```
MariaDB [shop]> SELECT salesman_id, MAX(purch_amt) AS highest_purchase_amount  
-> FROM orders  
-> WHERE salesman_id BETWEEN 5003 AND 5008  
-> GROUP BY salesman_id;
```

salesman_id	highest_purchase_amount
5003	2480.4
5005	270.65
5006	1983.43
5007	75.29

4 rows in set (0.001 sec)

18. Write an SQL statement that counts all orders for the date August 17th, 2021.

Ans: -> SELECT COUNT(\*) AS order\_count  
-> FROM orders  
-> WHERE ord\_date = '2021-08-17';

```
MariaDB [shop]> SELECT COUNT(*) AS order_count
-> FROM orders
-> WHERE ord_date = '2021-08-17' ;
+-----+
| order_count |
+-----+
|          2 |
+-----+
1 row in set (0.000 sec)
```

19. Write a SQL statement that count the number of salesmen for whom a city is specified. Note that there may be spaces or no spaces in the city column if no city is specified.

Ans: ->

20. Write a query that counts the number of salesmen with their order date and ID registering orders for each day.

Ans: -> SELECT ord\_date, salesman\_id, COUNT(DISTINCT salesman\_id) AS num\_salesman  
-> FROM orders  
-> GROUP BY ord\_date, salesman\_id;

```
MariaDB [shop]> SELECT ord_date, salesman_id, COUNT(DISTINCT salesman_id) AS num_salesman
-> FROM orders
-> GROUP BY ord_date, salesman_id;
+-----+-----+-----+
| ord_date | salesman_id | num_salesman |
+-----+-----+-----+
| 2021-04-25 | 5001 | 1 |
| 2021-06-27 | 5002 | 1 |
| 2021-07-27 | 5001 | 1 |
| 2021-08-17 | 5003 | 1 |
| 2021-08-17 | 5007 | 1 |
| 2021-09-10 | 5001 | 1 |
| 2021-09-10 | 5002 | 1 |
| 2021-09-10 | 5005 | 1 |
| 2021-10-05 | 5001 | 1 |
| 2021-10-05 | 5002 | 1 |
| 2021-10-10 | 5003 | 1 |
| 2021-10-10 | 5006 | 1 |
+-----+-----+-----+
12 rows in set (0.000 sec)
```