# mySQL\_Part2 Assignment Answers

### **ASSIGNMENT 1)**

mysql> create table customers(Cid int primary key,Cname varchar(30),Cemail varchar(50) unique,Cphno int(10),Crating int(2));

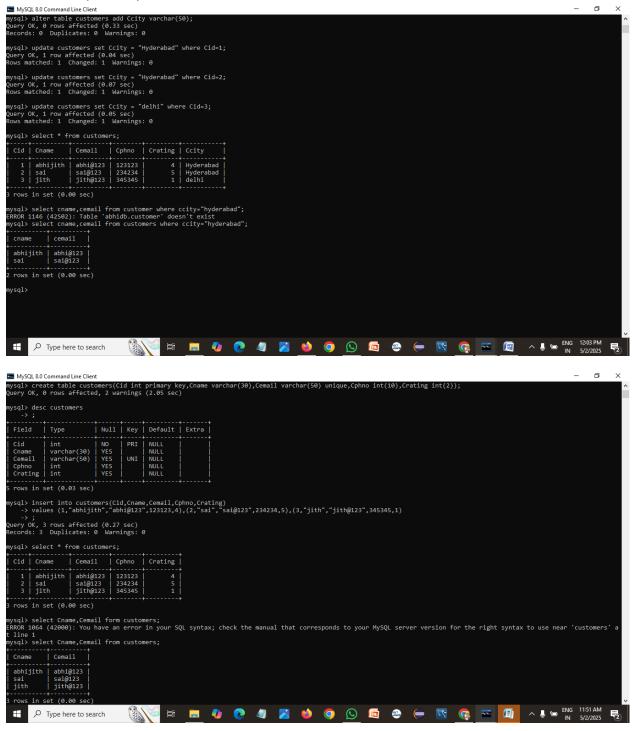
Query OK, 0 rows affected, 2 warnings (2.05 sec) mysql> desc customers ->; +----+ | Field | Type | Null | Key | Default | Extra | +----+ | Cid | int | NO | PRI | NULL | | | Cname | varchar(30) | YES | NULL | | Cemail | varchar(50) | YES | UNI | NULL | | Cphno | int | YES | NULL | | Crating | int | YES | NULL | | +----+ 5 rows in set (0.03 sec)mysql> insert into customers(Cid,Cname,Cemail,Cphno,Crating) -> values (1,"abhijith","abhi@123",123123,4),(2,"sai","sai@123",234234,5),(3,"jith","jith@123",345345,1) ->; Query OK, 3 rows affected (0.27 sec) Records: 3 Duplicates: 0 Warnings: 0

```
mysql> select * from customers;
+----+
| Cid | Cname | Cemail | Cphno | Crating |
+----+
| 1 | abhijith | abhi@123 | 123123 | 4 |
| 2 | sai | sai@123 | 234234 | 5 |
3 | jith | jith@123 | 345345 | 1 |
+----+
3 \text{ rows in set } (0.00 \text{ sec})
mysql> select Cname, Cemail form customers;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your
MySQL server version for the right syntax to use near 'customers' at line 1
mysql> select Cname, Cemail from customers;
+----+
| Cname | Cemail |
+----+
| abhijith | abhi@123 |
| sai | sai@123 |
| jith | jith@123 |
+----+
3 \text{ rows in set } (0.00 \text{ sec})
mysql> alter table customers add Ccity varchar(50);
Query OK, 0 rows affected (0.33 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> update customers set Ccity = "Hyderabad" where Cid=1;
Query OK, 1 row affected (0.04 sec)
```

```
mysql> update customers set Ccity = "Hyderabad" where Cid=2;
Query OK, 1 row affected (0.07 sec)
Rows matched: 1 Changed: 1 Warnings: 0
mysql> update customers set Ccity = "delhi" where Cid=3;
Query OK, 1 row affected (0.05 sec)
Rows matched: 1 Changed: 1 Warnings: 0
mysql> select * from customers;
+----+
| Cid | Cname | Cemail | Cphno | Crating | Ccity |
+----+
| 1 | abhijith | abhi@123 | 123123 | 4 | Hyderabad |
| 2 | sai | sai@123 | 234234 | 5 | Hyderabad |
3 | jith | jith@123 | 345345 | 1 | delhi
+----+
3 \text{ rows in set } (0.00 \text{ sec})
mysql> select cname, cemail from customer where ccity="hyderabad";
ERROR 1146 (42S02): Table 'abhidb.customer' doesn't exist
mysql> select cname, cemail from customers where ccity="hyderabad";
+----+
cname cemail
+----+
| abhijith | abhi@123 |
+----+
```

Rows matched: 1 Changed: 1 Warnings: 0

#### 2 rows in set (0.00 sec)

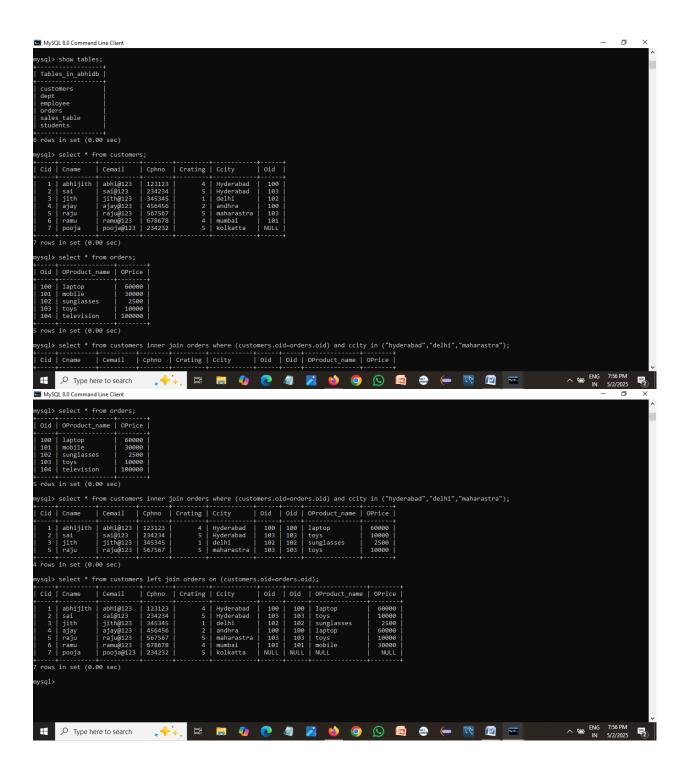


# **ASSIGNMENT 2**)

```
mysql> show tables;
+----+
| Tables_in_abhidb |
+----+
customers
dept
| employee
orders
| sales_table
students
+----+
6 rows in set (0.00 sec)
mysql> select * from customers;
+----+
| Cid | Cname | Cemail | Cphno | Crating | Ccity | Oid |
+----+
| 1 | abhijith | abhi@123 | 123123 | 4 | Hyderabad | 100 |
        | sai@123 | 234234 | 5 | Hyderabad | 103 |
| 2 | sai
| 3 | jith
        | jith@123 | 345345 | 1 | delhi | 102 |
| 4 | ajay
        | ajay@123 | 456456 |
                              2 | andhra | 100 |
| 5 | raju | raju@123 | 567567 |
                             5 | maharastra | 103 |
| 6 | ramu | ramu@123 | 678678 |
                               4 | mumbai | 101 |
| 7 | pooja | pooja@123 | 234232 |
                               5 | kolkatta | NULL |
```

```
+----+
7 rows in set (0.00 \text{ sec})
mysql> select * from orders;
+----+
| Oid | OProduct_name | OPrice |
+----+
| 100 | laptop | 60000 |
| 101 | mobile
          | 30000 |
| 102 | sunglasses | 2500 |
| 103 | toys
           | 10000 |
| 104 | television | 100000 |
+----+
5 rows in set (0.00 \text{ sec})
mysql> select * from customers inner join orders where (customers.oid=orders.oid) and ccity in
("hyderabad", "delhi", "maharastra");
| Cid | Cname | Cemail | Cphno | Crating | Ccity | Oid | Oid | OProduct_name | OPrice |
+----+
| 1 | abhijith | abhi@123 | 123123 | 4 | Hyderabad | 100 | 100 | laptop | 60000 |
      | sai@123 | 234234 | 5 | Hyderabad | 103 | 103 | toys
                                                  | 10000 |
| 2 | sai
| 3 | jith | jith@123 | 345345 | 1 | delhi | 102 | 102 | sunglasses | 2500 |
| 5 | raju | raju@123 | 567567 | 5 | maharastra | 103 | 103 | toys | 10000 |
+----+
4 rows in set (0.00 sec)
```

```
mysql> select * from customers left join orders on (customers.oid=orders.oid);
| Cid | Cname | Cemail | Cphno | Crating | Ccity | Oid | Oid | OProduct_name | OPrice |
+----+
| 1 | abhijith | abhi@123 | 123123 | 4 | Hyderabad | 100 | 100 | laptop
                                                       | 60000 |
        | sai@123 | 234234 |
                          5 | Hyderabad | 103 | 103 | toys | 10000 |
| 2 | sai
| 3 | jith
       | jith@123 | 345345 |
                         1 | delhi | 102 | 102 | sunglasses | 2500 |
                           2 | andhra | 100 | 100 | laptop
| 4 | ajay
        | ajay@123 | 456456 |
                                                    | 60000 |
       | raju@123 | 567567 |
                          5 | maharastra | 103 | 103 | toys
| 5 | raju
                                                     | 10000 |
| 6 | ramu | ramu@123 | 678678 |
                            4 | mumbai | 101 | 101 | mobile
                                                       | 30000 |
| 7 | pooja | pooja@123 | 234232 |
                           5 | kolkatta | NULL | NULL | NULL
                                                          | NULL |
7 rows in set (0.00 sec)
```



## Assignment 3)

```
mysql> select * from customers;
+----+
| Cid | Cname | Cemail | Cphno | Crating | Ccity | Oid |
+----+
| 1 | abhijith | abhi@123 | 123123 | 4 | Hyderabad | 100 |
        | sai@123 | 234234 | 5 | Hyderabad | 103 |
| 2 | sai
        | jith@123 | 345345 | 1 | delhi | 102 |
| 3 | jith
        | ajay@123 | 456456 | 2 | andhra | 100 |
| 4 | ajay
| 5 | raju
        | raju@123 | 567567 |
                             5 | maharastra | 103 |
| 6 | ramu | ramu@123 | 678678 |
                              4 | mumbai | 101 |
| 7 | pooja | pooja@123 | 234232 |
                              5 | kolkatta | NULL |
+----+
7 rows in set (0.00 \text{ sec})
mysql> select * from orders;
+----+
| Oid | OProduct_name | OPrice |
+----+
| 100 | laptop
             | 60000 |
| 101 | mobile
             | 30000 |
| 102 | sunglasses | 2500 |
| 103 | toys
            | 10000 |
| 104 | television | 100000 |
| 105 | wardrobe
              | 75000 |
```

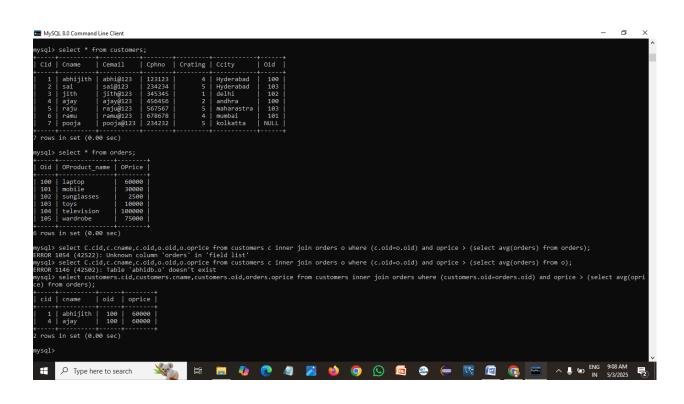
+----+

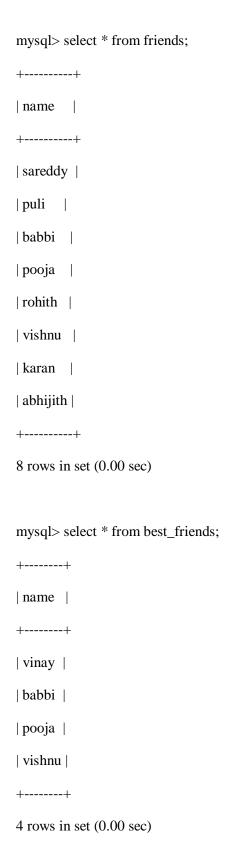
6 rows in set (0.00 sec)

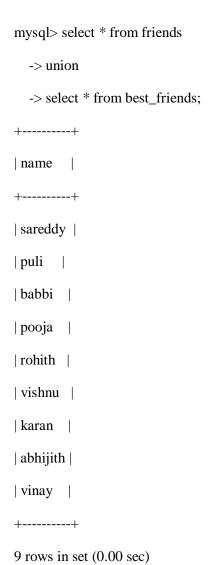
mysql> select customers.cid,customers.cname,customers.oid,orders.oprice from customers inner join orders where (customers.oid=orders.oid) and oprice > (select avg(oprice) from orders);

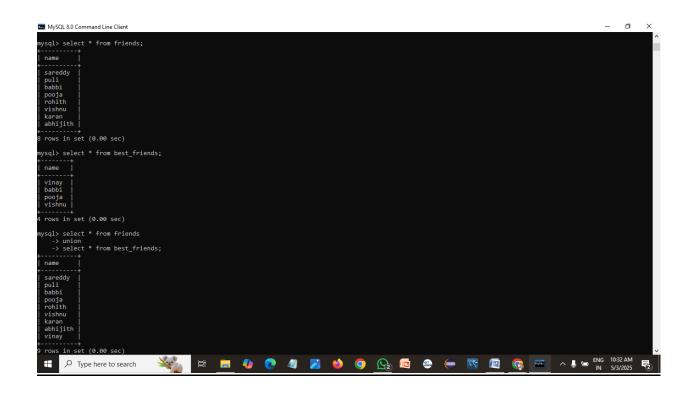
+----+
| cid | cname | oid | oprice |
+----+
| 1 | abhijith | 100 | 60000 |
| 4 | ajay | 100 | 60000 |
+----+

2 rows in set (0.00 sec)









# ASSIGNMENT 4)

mysql> select * from productId;
++
Pid   oProduct_name
++
1   laptop
2   mobile
3   sunglasses
4   toys
5   television
6   wardrobe
++
6 rows in set (0.00 sec)
mysql> select * from orders;
++
Oid   OProduct_name   OPrice
++
100   laptop   60000
101   mobile   30000
102   sunglasses   2500
103   toys   10000
104   television   100000
105   wardrobe   75000
++

```
6 rows in set (0.00 sec)
mysql> start transaction;
Query OK, 0 rows affected (0.00 sec)
mysql> insert into orders (oid,oproudct_name,oprice) values (106,"earpods",30000);
ERROR 1054 (42S22): Unknown column 'oproudct_name' in 'field list'
mysql> insert into orders (oid,oproduct_name,oprice) values (106,"earpods",30000);
Query OK, 1 row affected (0.00 sec)
mysql> select * from orders;
+----+
| Oid | OProduct_name | OPrice |
+----+
               | 60000 |
| 100 | laptop
| 101 | mobile
                | 30000 |
| 102 | sunglasses | 2500 |
| 103 | toys
               | 10000 |
| 104 | television | 100000 |
| 105 | wardrobe
                 | 75000 |
                | 30000 |
| 106 | earpods
+----+
7 rows in set (0.00 sec)
mysql> commit;
```

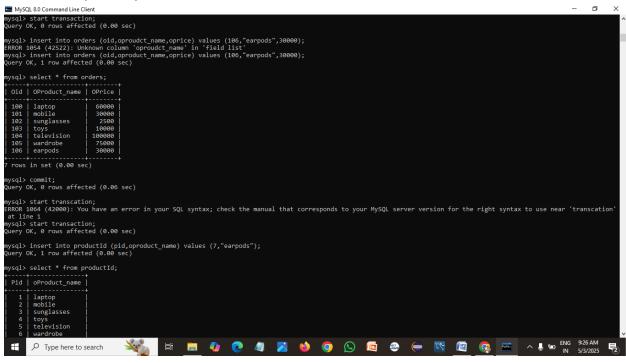
Query OK, 0 rows affected (0.06 sec)

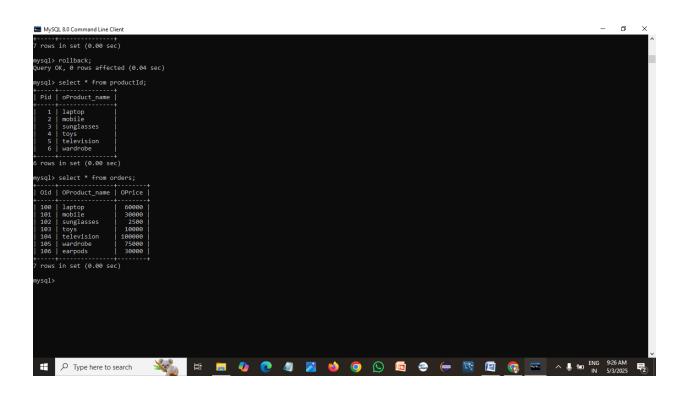
```
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your
MySQL server version for the right syntax to use near 'transcation' at line 1
mysql> start transaction;
Query OK, 0 rows affected (0.00 sec)
mysql> insert into productId (pid,oproduct_name) values (7,"earpods");
Query OK, 1 row affected (0.00 sec)
mysql> select * from productId;
+----+
| Pid | oProduct_name |
+----+
| 1 | laptop |
| 2 | mobile
3 | sunglasses |
| 4 | toys
| 5 | television |
| 6 | wardrobe
| 7 | earpods
+----+
7 rows in set (0.00 sec)
mysql> rollback;
Query OK, 0 rows affected (0.04 sec)
```

mysql> start transcation;

```
mysql> select * from productId;
+----+
| Pid | oProduct_name |
+----+
| 1 | laptop
| 2 | mobile
3 | sunglasses |
| 4 | toys
| 5 | television |
| 6 | wardrobe
+----+
6 rows in set (0.00 sec)
mysql> select * from orders;
+----+
| Oid | OProduct_name | OPrice |
+----+
| 100 | laptop
              | 60000 |
| 101 | mobile
              | 30000 |
| 102 | sunglasses | 2500 |
             | 10000 |
| 103 | toys
| 104 | television | 100000 |
| 105 | wardrobe
               | 75000 |
| 106 | earpods
              | 30000 |
+----+
```

#### 7 rows in set (0.00 sec)





# Assignment 5):

```
mysql> select * from orders;
+----+
| Oid | OProduct_name | OPrice |
+----+
| 100 | laptop
              | 60000 |
| 101 | mobile
               | 30000 |
| 102 | sunglasses | 2500 |
| 103 | toys
              | 10000 |
| 104 | television | 100000 |
| 105 | wardrobe
                | 75000 |
| 106 | earpods
              | 30000 |
+----+
7 rows in set (0.00 sec)
mysql> start transaction;
Query OK, 0 rows affected (0.00 sec)
mysql> insert into orders (oid,oproduct_name,oprice) values (107,"clothing",10000),(108,"food",5000);
Query OK, 2 rows affected (0.00 sec)
Records: 2 Duplicates: 0 Warnings: 0
mysql> savepoint s1;
Query OK, 0 rows affected (0.00 sec)
```

```
mysql> insert into orders (oid,oproduct_name,oprice) values (109,"education",100000),(110,"car",250000);
```

Query OK, 2 rows affected (0.00 sec)

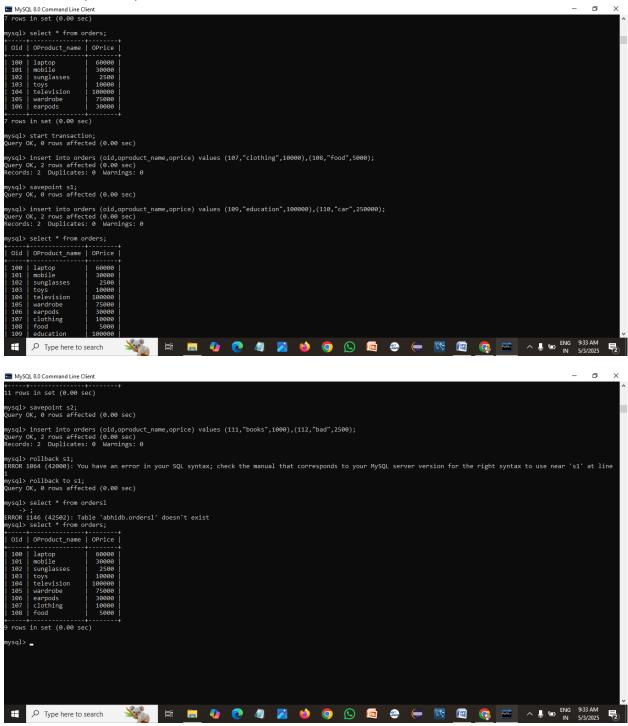
Records: 2 Duplicates: 0 Warnings: 0

```
mysql> select * from orders;
+----+
| Oid | OProduct_name | OPrice |
+----+
| 100 | laptop
               | 60000 |
| 101 | mobile
               | 30000 |
| 102 | sunglasses | 2500 |
| 103 | toys
              | 10000 |
| 104 | television | 100000 |
| 105 | wardrobe
                 | 75000 |
| 106 | earpods
                | 30000 |
| 107 | clothing
                | 10000 |
| 108 | food
               | 5000 |
| 109 | education | 100000 |
| 110 | car
              | 250000 |
+----+
11 rows in set (0.00 sec)
mysql> savepoint s2;
Query OK, 0 rows affected (0.00 sec)
```

```
mysql> insert into orders (oid,oproduct_name,oprice) values (111,"books",1000),(112,"bad",2500);
Query OK, 2 rows affected (0.00 sec)
Records: 2 Duplicates: 0 Warnings: 0
mysql> rollback s1;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your
MySQL server version for the right syntax to use near 's1' at line 1
mysql> rollback to s1;
Query OK, 0 rows affected (0.00 sec)
mysql> select * from ordersl
  ->;
ERROR 1146 (42S02): Table 'abhidb.ordersl' doesn't exist
mysql> select * from orders;
+----+
| Oid | OProduct_name | OPrice |
+----+
| 100 | laptop
                | 60000 |
| 101 | mobile
                | 30000 |
| 102 | sunglasses | 2500 |
| 103 | toys
               | 10000 |
| 104 | television | 100000 |
| 105 | wardrobe
                  | 75000 |
| 106 | earpods
                 | 30000 |
| 107 | clothing
                | 10000 |
| 108 | food
               | 5000 |
```

+----+

#### 9 rows in set (0.00 sec)



#### Assignment 6)

Transaction plays an important role in data consistency, data integrity and efficiency in database management systems (DBMS). It is used to ensure data integrity and support data recovery in the event of system failures. These logs record all changes made to the database, including additions, deletions, and updates, in the order they occur.

Each time a transaction is executed, the DBMS writes the operation details into the transaction log before applying the changes to the database. This process, known as write-ahead logging, ensures that even if a system crashes, the log retains a record of all transactions. During recovery, the DBMS uses this log to redo committed transactions and undo incomplete ones, thus restoring the database to a consistent state.

Any transaction has 4 propersties to achieve those are called ACID properties , atomicity, consistency, integrity and durability.

#### Let us consider a situation:

Consider a university's student database system used for managing exam registrations. A student registers for an exam at 10:05 AM, and the system records this action in the transaction log. At 10:07 AM, before the changes are written to the actual database, the server experiences a power outage.

Upon reboot, the DBMS detects that the last shutdown was unclean. It scans the transaction log and finds the recorded transaction for the student's exam registration. Since the transaction was committed but not yet applied to the main database, the system uses the log to redo the transaction. This ensures the student's registration is not lost despite the unexpected failure.

Transaction logs provide a reliable method for recovering data in the event of crashes or unexpected shutdowns. Their role in maintaining data consistency and enabling point-in-time recovery makes them indispensable in any robust database system.