**Sub Queries :**

C:\Program Files\MySQL\MySQL Server 9.4\bin>mysql -h localhost -u root -p

Enter password: \*\*\*\*\*\*\*\*\*\*

Welcome to the MySQL monitor. Commands end with ; or \g.

Your MySQL connection id is 28

Server version: 9.4.0 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> create database subque;

Query OK, 1 row affected (0.057 sec)

mysql> use subque;

Database changed

mysql> create table customer(

-> cust\_id int primary key,

-> cust\_name varchar(100),

-> city varchar(50),

-> email varchar(100)

-> );

Query OK, 0 rows affected (0.159 sec)

mysql> create table sale(

-> sale\_id int primary key,

-> cust\_id int,

-> p\_id int,

-> sale\_date DATE,

-> t\_amt float,

-> foreign key (cust\_id) references customer(cust\_id)

-> );

Query OK, 0 rows affected (0.324 sec)

mysql> create table product(

-> p\_id int primary key,

-> p\_name varchar(80),

-> category varchar(100),

-> price int

-> );

Query OK, 0 rows affected (0.122 sec)

mysql> alter table sale add foreign key (p\_id) references product(p\_id);

Query OK, 0 rows affected (0.563 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc product;

+----------+--------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+----------+--------------+------+-----+---------+-------+

| p\_id | int | NO | PRI | NULL | |

| p\_name | varchar(80) | YES | | NULL | |

| category | varchar(100) | YES | | NULL | |

| price | int | YES | | NULL | |

+----------+--------------+------+-----+---------+-------+

4 rows in set (0.018 sec)

mysql> insert into product values(1234,'Bike','Vehicle',80000),

-> (5678,'Bulb','Electronics',450),

-> (9147,'Pizza','Food',1300),

-> (2395,'Burger','Food',600),

-> (6892,'Pot','Decorative',1500);

Query OK, 5 rows affected (0.049 sec)

Records: 5 Duplicates: 0 Warnings: 0

mysql> desc sale;

+-----------+-------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-----------+-------+------+-----+---------+-------+

| sale\_id | int | NO | PRI | NULL | |

| cust\_id | int | YES | MUL | NULL | |

| p\_id | int | YES | MUL | NULL | |

| sale\_date | date | YES | | NULL | |

| t\_amt | float | YES | | NULL | |

+-----------+-------+------+-----+---------+-------+

5 rows in set (0.013 sec)

mysql> desc customer;

+-----------+--------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-----------+--------------+------+-----+---------+-------+

| cust\_id | int | NO | PRI | NULL | |

| cust\_name | varchar(100) | YES | | NULL | |

| city | varchar(50) | YES | | NULL | |

| email | varchar(100) | YES | | NULL | |

+-----------+--------------+------+-----+---------+-------+

4 rows in set (0.013 sec)

mysql> insert into customer values(001,'Alex','NY','alex@12'),

-> (002,'Ceasy','LA','ceasy@756'),

-> (003,'Mark','Chicago','mark@409'),

-> (004,'Niel','London','niel@2765'),

-> (005,'Timmy','Paris','timmy@98');

Query OK, 5 rows affected (0.043 sec)

Records: 5 Duplicates: 0 Warnings: 0

mysql> insert into sale values(100,003,9147,'2025-05-12',1300);

Query OK, 1 row affected (0.034 sec)

mysql> insert into sale values(101,005,1234,'2025-08-28',80000),

-> (102,001,2395,'2025-06-17',600),

-> (103,002,6892,'2025-06-25',1500),

-> (104,004,9147,'2025-07-08',1300);

Query OK, 4 rows affected (0.040 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> select \* from sale;

+---------+---------+------+------------+-------+

| sale\_id | cust\_id | p\_id | sale\_date | t\_amt |

+---------+---------+------+------------+-------+

| 100 | 3 | 9147 | 2025-05-12 | 1300 |

| 101 | 5 | 1234 | 2025-08-28 | 80000 |

| 102 | 1 | 2395 | 2025-06-17 | 600 |

| 103 | 2 | 6892 | 2025-06-25 | 1500 |

| 104 | 4 | 9147 | 2025-07-08 | 1300 |

+---------+---------+------+------------+-------+

5 rows in set (0.005 sec)

mysql> select \* from product;

+------+--------+-------------+-------+

| p\_id | p\_name | category | price |

+------+--------+-------------+-------+

| 1234 | Bike | Vehicle | 80000 |

| 2395 | Burger | Food | 600 |

| 5678 | Bulb | Electronics | 450 |

| 6892 | Pot | Decorative | 1500 |

| 9147 | Pizza | Food | 1300 |

+------+--------+-------------+-------+

5 rows in set (0.005 sec)

mysql> select \* from customer;

+---------+-----------+---------+-----------+

| cust\_id | cust\_name | city | email |

+---------+-----------+---------+-----------+

| 1 | Alex | NY | alex@12 |

| 2 | Ceasy | LA | ceasy@756 |

| 3 | Mark | Chicago | mark@409 |

| 4 | Niel | London | niel@2765 |

| 5 | Timmy | Paris | timmy@98 |

+---------+-----------+---------+-----------+

5 rows in set (0.006 sec)

mysql> select \* from sale

-> where sale.t\_amt>avg(product.price);

ERROR 1111 (HY000): Invalid use of group function

mysql> select \* from sale

-> where t\_amt>(select avg(price) from product);

+---------+---------+------+------------+-------+

| sale\_id | cust\_id | p\_id | sale\_date | t\_amt |

+---------+---------+------+------------+-------+

| 101 | 5 | 1234 | 2025-08-28 | 80000 |

+---------+---------+------+------------+-------+

1 row in set (0.006 sec)

mysql> select \* from product

-> where p\_id not in (select p\_id from sale);

+------+--------+-------------+-------+

| p\_id | p\_name | category | price |

+------+--------+-------------+-------+

| 5678 | Bulb | Electronics | 450 |

+------+--------+-------------+-------+

1 row in set (0.019 sec)