```sql
CREATE TABLE category (
  category_id INT AUTO_INCREMENT PRIMARY KEY,
  category_name VARCHAR(255) NOT NULL,
  avg_price_in_category INT NOT NULL,
  no_of_products INT NOT NULL
);

CREATE TABLE products (
  product_id INT AUTO_INCREMENT PRIMARY KEY,
  category_id INT NOT NULL ,
  product_name VARCHAR(255) NOT NULL,
  product_description VARCHAR(255) NOT NULL,
  product_images VARCHAR(255) NOT NULL,
  FOREIGN KEY (category_id) REFERENCES category (category_id) ON DELETE
CASCADE
);

INSERT INTO  category
(category_name,avg_price_in_category,no_of_products,in_stock)
VALUES
("Smart Phones",10000,1000,0),
("Mens Clothing",1000,20000,1),
("Toys",200,50000,0),
("Electronics",3000,90000,1),
("Food",200,1000,0),
("Medicines",200,2000000,1),
("Pet Food",500,100000,1);
```

```
INSERT INTO products
(category_id,product_name,product_description,product_images)
VALUES
(1,"Apple","good","url"),
(1,"Lenovo","fine","url2"),
(1,"oppo","good","url3"),
(9,"Fire Truck","playable","url4"),
(9,"remote car","not playing","url5"),
(9,"football","round","url6");
```

```
MySQL 8.0 Command Line Client                                                                              —  □  ×

mysql> select * from product;
ERROR 1146 (42S02): Table 'ecom.product' doesn't exist
mysql> select * from products;
+------------+-------------+--------------+---------------------+----------------+
| product_id | category_id | product_name | product_description | product_images |
+------------+-------------+--------------+---------------------+----------------+
|         13 |           1 | Apple        | good                | url            |
|         14 |           1 | Lenovo       | fine                | url2           |
|         15 |           1 | oppo         | good                | url3           |
|         16 |           9 | Fire Truck   | playable            | url4           |
|         17 |           9 | remote car   | not playing         | url5           |
|         18 |           9 | football     | round               | url6           |
+------------+-------------+--------------+---------------------+----------------+
6 rows in set (0.00 sec)

mysql>
```

```
#sub query with set membership operator in
SELECT product_name
FROM products
WHERE category_id IN
(SELECT category_id
FROM category
WHERE in_stock=1
);
```

```
MySQL 8.0 Command Line Client                                                                    —  □  ×

mysql>
mysql>
mysql>
mysql> SELECT product_name FROM products WHERE category_id IN(SELECT category_id FROM category WHERE in_stock=1);
+--------------+
| product_name |
+--------------+
| Fire Truck   |
| remote car   |
| football     |
+--------------+
3 rows in set (0.00 sec)

mysql>
```

sub query with set not in
SELECT product_name
FROM products
WHERE category_id NOT IN
(SELECT category_id
FROM category
WHERE in_stock=1
);

```
mysql>
mysql>
mysql>
mysql> SELECT product_name FROM products WHERE category_id IN(SELECT category_id FROM category WHERE in_stock=1);
+--------------+
| product_name |
+--------------+
| Fire Truck   |
| remote car   |
| football     |
+--------------+
3 rows in set (0.00 sec)

mysql> SELECT product_name FROM products WHERE category_id NOT IN (SELECT category_id FROM category WHERE in_stock=1);
+--------------+
| product_name |
+--------------+
| Apple        |
| Lenovo       |
| oppo         |
+--------------+
3 rows in set (0.00 sec)

mysql>
```

sub query with = ANY
SELECT product_name
FROM products
WHERE category_id =
ANY(SELECT category_id
FROM category
WHERE in_stock=1
);

```
MySQL 8.0 Command Line Client                                                              —  □  ×
| football     |
+--------------+
3 rows in set (0.00 sec)

mysql> SELECT product_name FROM products WHERE category_id NOT IN (SELECT category_id FROM category WHERE in_stock=1);
+--------------+
| product_name |
+--------------+
| Apple        |
| Lenovo       |
| oppo         |
+--------------+
3 rows in set (0.00 sec)

mysql> SELECT product_name FROM products WHERE category_id = ANY(SELECT category_id FROM category WHERE in_stock=1);
+--------------+
| product_name |
+--------------+
| Fire Truck   |
| remote car   |
| football     |
+--------------+
3 rows in set (0.00 sec)

mysql>
```

sub query with = SOME
SELECT product_name
FROM products
WHERE category_id =
ANY(SELECT category_id
FROM category
WHERE in_stock=1
);

MySQL 8.0 Command Line Client

```
Empty set (0.12 sec)

mysql> SELECT product_name FROM products WHERE category_id = SOME(SELECT category_id FROM category WHERE in_stock=1);
+--------------+
| product_name |
+--------------+
| Fire Truck   |
| remote car   |
| football     |
+--------------+
3 rows in set (0.00 sec)

mysql>
```