# University of Petroleum

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# Energy Studies

## SCHOOL OF COMPUTER SCIENCE

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# Experiment 5: To understand and use SQL Sub-Query

**Objective:** To understand the use of SQL subquery.

1. **Create the following table.**
   a) **Supplier-(scode,sname,scity,turnover)**

```
mysql> CREATE DATABASE WORKSHOP;
Query OK, 1 row affected (0.01 sec)

mysql> USE WORKSHOP;
Database changed
mysql> CREATE TABLE Supplier (
    ->     scode INT PRIMARY KEY,
    ->     sname VARCHAR(100),
    ->     scity VARCHAR(100),
    ->     turnover DECIMAL(10, 2)
    -> );
Query OK, 0 rows affected (0.05 sec)
```

   b) **Part-(pcode,weigh,color,cost,sellingprice)**

```
mysql> CREATE TABLE Part (
    ->     pcode INT PRIMARY KEY,
    ->     weigh DECIMAL(5, 2),
    ->     color VARCHAR(50),
    ->     cost DECIMAL(10, 2),
    ->     sellingprice DECIMAL(10, 2)
    -> );
Query OK, 0 rows affected (0.05 sec)
```

   c) **Supplier_Part-(scode,pcode,qty)**

```
mysql> CREATE TABLE Supplier_Part (
    ->     scode INT,
    ->     pcode INT,
    ->     qty INT,
    ->     FOREIGN KEY (scode) REFERENCES Supplier(scode),
    ->     FOREIGN KEY (pcode) REFERENCES Part(pcode)
    -> );
Query OK, 0 rows affected (0.07 sec)
```

## 2. Populate the table

### a) Inserting data into Supplier table

```
mysql> INSERT INTO Supplier (scode, sname, scity, turnover) VALUES
    -> (1, 'Supplier1', 'Bombay', 50.00),
    -> (2, 'Supplier2', 'Delhi', 100.00),
    -> (3, 'Supplier3', 'Bombay', 150.00),
    -> (4, 'Supplier4', 'Chennai', NULL);
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

### b) Inserting data into Part table

```
mysql> INSERT INTO Part (pcode, weigh, color, cost, sellingprice) VALUES
    -> (1, 20.00, 'Red', 20.00, 25.00),
    -> (2, 30.00, 'Blue', 30.00, 35.00),
    -> (3, 35.00, 'Green', 40.00, 50.00),
    -> (4, 40.00, 'Yellow', 50.00, 60.00);
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

### c) Inserting data into Supplier_Part table

```
mysql> INSERT INTO Supplier_Part (scode, pcode, qty) VALUES
    -> (1, 1, 10),
    -> (1, 2, 5),
    -> (2, 3, 7),
    -> (3, 2, 15),
    -> (4, 4, 12);
Query OK, 5 rows affected (0.01 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

## 3. Write appropriate SQL Statement for the following:

### a) Get the supplier number and part number in ascending order of supplier number.

```
mysql> SELECT scode, pcode
    -> FROM Supplier_Part
    -> ORDER BY scode ASC;
+-------+-------+
| scode | pcode |
+-------+-------+
|     1 |     1 |
|     1 |     2 |
|     2 |     3 |
|     3 |     2 |
|     4 |     4 |
+-------+-------+
5 rows in set (0.00 sec)
```

### b) Get the details of supplier who operate from Bombay with turnover 50.

```
mysql> SELECT *
    -> FROM Supplier
    -> WHERE scity = 'Bombay' AND turnover = 50;
+-------+-----------+--------+----------+
| scode | sname     | scity  | turnover |
+-------+-----------+--------+----------+
|     1 | Supplier1 | Bombay |    50.00 |
+-------+-----------+--------+----------+
1 row in set (0.00 sec)
```

c) **Get the total number of suppliers.**

```
mysql> SELECT COUNT(*) AS total_suppliers
    -> FROM Supplier;
+-----------------+
| total_suppliers |
+-----------------+
|               4 |
+-----------------+
1 row in set (0.00 sec)
```

d) **Get the part number weighing between 25 and 35.**

```
mysql> SELECT pcode
    -> FROM Part
    -> WHERE weigh BETWEEN 25 AND 35;
+-------+
| pcode |
+-------+
|     2 |
|     3 |
+-------+
2 rows in set (0.00 sec)
```

e) **Get the supplier number whose turnover is null.**

```
mysql> SELECT scode
    -> FROM Supplier
    -> WHERE turnover IS NULL;
+-------+
| scode |
+-------+
|     4 |
+-------+
1 row in set (0.00 sec)
```

f) **Get the part number that cost 20, 30 or 40 rupees.**

```
mysql> SELECT pcode
    -> FROM Part
    -> WHERE cost IN (20, 30, 40);
+-------+
| pcode |
+-------+
|     1 |
|     2 |
|     3 |
+-------+
3 rows in set (0.00 sec)
```

g) **Get the total quantity of part 2 that is supplied.**

```
mysql> SELECT SUM(qty) AS total_qty
    -> FROM Supplier_Part
    -> WHERE pcode = 2;
+-----------+
| total_qty |
+-----------+
|        20 |
+-----------+
1 row in set (0.00 sec)
```

**h) Get the name of supplier who supply part 2.**

```
mysql> SELECT sname
    -> FROM Supplier
    -> WHERE scode IN (SELECT scode FROM Supplier_Part WHERE pcode = 2);
+-----------+
| sname     |
+-----------+
| Supplier1 |
| Supplier3 |
+-----------+
2 rows in set (0.00 sec)
```

**i) Get the part number whose cost is greater than the average cost.**

```
mysql> SELECT pcode
    -> FROM Part
    -> WHERE cost > (SELECT AVG(cost) FROM Part);
+-------+
| pcode |
+-------+
|     3 |
|     4 |
+-------+
2 rows in set (0.00 sec)
```

**j) Get the supplier number and turnover in descending order of turnover.**

```
mysql> SELECT scode, turnover
    -> FROM Supplier
    -> ORDER BY turnover DESC;
+-------+----------+
| scode | turnover |
+-------+----------+
|     3 |   150.00 |
|     2 |   100.00 |
|     1 |    50.00 |
|     4 |     NULL |
+-------+----------+
4 rows in set (0.00 sec)
```