



# ANJUMAN-I-ISLAM'S KALSEKAR TECHNICAL CAMPUS

## School of Engineering & Technology

Affiliated to : University of Mumbai, Recognised by : DTE (Maharashtra) & Approved by : AICTE (New Delhi)

<b>Course Code: CSL402</b>	<b>Course Name: Database Management System Lab</b>
<b>Class: SE-CO</b>	<b>Batch: 2020-24</b>
<b>Roll no: 20CO24</b>	<b>Name: Khan Arshad Abdulla</b>

### Experiment: 07

**Aim: Perform nested and complex queries.**

#### Case Study Title – Currency Converter

#### Theory:

A Subquery or Inner query or a Nested query is a query within another SQL query and embedded within the WHERE clause.

A subquery is used to return data that will be used in the main query as a condition to further restrict the data to be retrieved.

Subqueries can be used with the SELECT, INSERT, UPDATE, and DELETE statements along with the operators like =, <, >, >=, <=, IN, BETWEEN, etc.

There are a few rules that subqueries must follow –

- Subqueries must be enclosed within parentheses.
- A subquery can have only one column in the SELECT clause, unless multiple columns are in the main query for the subquery to compare its selected columns.
- An ORDER BY command cannot be used in a subquery, although the main query can use an ORDER BY. The GROUP BY command can be used to perform the same function as the ORDER BY in a subquery.
- Subqueries that return more than one row can only be used with multiple value operators such as the IN operator.
- The BETWEEN operator cannot be used with a subquery. However, the BETWEEN operator can be used within the subquery.

#### Subqueries with the SELECT Statement

Subqueries are most frequently used with the SELECT statement. The basic syntax is as follows –

```
SELECT column_name [, column_name ]  
FROM table1 [, table2 ]  
WHERE column_name OPERATOR  
      (SELECT column_name [, column_name ]  
      FROM table1 [, table2 ]  
      [WHERE])
```



# ANJUMAN-I-ISLAM'S KALSEKAR TECHNICAL CAMPUS

## School of Engineering & Technology

Affiliated to : University of Mumbai, Recognised by : DTE (Maharashtra) & Approved by : AICTE (New Delhi)

**Q1. Find the Match IDs of all matches in the database in which Sachin has batted.**

```
select MID from Batting
where PID IN (select PlayerID from Player where Fname = 'Sachin');
```

**Q2. Find the match information of all the matches in which Dhoni has batted.**

```
select MatchID, Team1, Team2, Ground from Matches
where MatchID IN ( select MID from Batting
where PID IN ( select PlayerID from Player where Lname = 'Dhoni'));
```

**Q3. Find the IDs of all players that have bowled and batted in the ODI Match 2689.**

```
select PlayerID, Fname, Lname from Player
where PlayerID IN
(select PID from Batting where MID = 2689
AND PID IN ( select PID from Bowling where MID = 2689 ));
```

**Q4. Find the IDs of players that have either bowling or batting or did both in the ODI Match 2689.**

```
select Fname, Lname from Player
where PlayerID IN
(select PID from Batting where MID = 2689
OR PID IN ( select PID from Bowling where MID = 2689 ));
```

**Q5. Find the IDs of players that have batted in match 2689 but have not bowled.**

```
select Fname, Lname from Player
where PlayerID IN
(select PID from Batting where MID = 2689
AND PID NOT IN ( select PID from Bowling where MID = 2689 ))
```

**Q6. Find the IDs and scores of players who score less than 75 but more than 50 in Colombo.**



# ANJUMAN-I-ISLAM'S KALSEKAR TECHNICAL CAMPUS

## School of Engineering & Technology

Affiliated to : University of Mumbai, Recognised by : DTE (Maharashtra) & Approved by : AICTE (New Delhi)

select PID, NRuns from Batting

where NRuns between 51 and 74

AND MID IN (select MatchID from Matches where Ground = 'Colombo');

### Q7. Find the youngest player in the database.

select Fname, Lname from Player

where YBorn IN (select MAX(YBorn) from Player);

### Output:

Attach the output of the nested queries on your project in txt format.

### Conclusion:

In this experiment we have performed nested and complex queries on Currency Converter database.  
I understood how to perform sub-queries.