

What are Subqueries



- Subquery is a query that is nested inside a larger query
- A subquery is always enclosed within parentheses
- Subquery returns a result set that may consist of
 - A single row with a single column
 - Single row with multiple columns
 - Multiple rows having multiple columns

```
SELECT category_name  
FROM  
categories  
WHERE category_id =
```

```
( SELECT MIN(category_id)  
  from  
  movies);
```

```
SELECT category_name FROM  
categories  
WHERE category_id =  
  ( SELECT MIN(category_id)  
    from  
    movies);
```

First the inner query is executed

SELECT MIN(category_id) from movies

Inner Query gives the following result



Min(category_id)
1

Output of the INNER Query is substituted in the OUTER query

SELECT category_name FROM categories WHERE category_id =

On execution the OUTER query gives the following result



category_name
Horror

Main query

```
select * from employees  
where  
hire_date >
```

Subquery

```
(select hire_date from test where emp_no = 10010);
```

- The subquery (inner query) executes once before the main query
- The result of the subquery is used by the main (outer query)

Main query

```
select * from employees  
where  
hire_date >
```

Subquery

```
(select hire_date from test where emp_no = 10010);
```

emp_no	birth_date	first_name	first_name	gender	hire_date
10005	1955-01-21	Kyoichi	Maliniak	M	1989-09-12
10008	1958-02-19	Saniya	Kalloufi	M	1994-09-15

- Enclose subquery in parentheses
- Place subqueries on the **right hand side** of the comparison operator
- Do not add an **ORDER BY** clause to a subquery
- Use single-row operators with a single row subqueries
- Use multiple-row operators with multiple row subqueries



Types of subquery:

- MySQL **Non correlated** subquery
- **Multi-row, Single Column** subquery
- **Multi-Column** subquery
- MySQL **correlated** subquery
- MySQL subquery with **EXISTS** and **NOT EXISTS**

Thank You

