

```
mysql> USE CompanyDB;
Database changed
mysql> CREATE TABLE departments (
->     id INTEGER PRIMARY KEY,
->     name TEXT NOT NULL,
->     location TEXT
-> );
Query OK, 0 rows affected (0.04 sec)

mysql> CREATE TABLE employees (
->     id INTEGER PRIMARY KEY,
->     name TEXT NOT NULL,
->     department_id INTEGER,
->     salary INTEGER,
->     FOREIGN KEY (department_id) REFERENCES departments(id)
-> );
Query OK, 0 rows affected (0.07 sec)

mysql> INSERT INTO departments (id, name, location) VALUES
-> (1, 'HR', 'Hyderabad'),
-> (2, 'Finance', 'Mumbai'),
-> (3, 'Engineering', 'Bangalore');
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> INSERT INTO employees (id, name, department_id, salary) VALUES
-> (1, 'Mahi', 1, 50000),
-> (2, 'Saru', 2, 60000),
-> (3, 'Manoj', 3, 70000),
-> (4, 'David', 3, 80000);
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

```
mysql> SELECT
->     name,
->     (SELECT AVG(salary) FROM employees) AS avg_salary
-> FROM
->     employees;
```

name	avg_salary
Mahi	65000.0000
Saru	65000.0000
Manoj	65000.0000
David	65000.0000

4 rows in set (0.00 sec)

```
mysql> SELECT
->     name
-> FROM
->     employees
-> WHERE
->     department_id IN (SELECT id FROM departments WHERE location = 'Hyderabad');
```

name
Mahi

1 row in set (0.01 sec)

```
mysql> SELECT
->     e1.name
-> FROM
->     employees e1
```

```
-> WHERE
-> salary > (SELECT AVG(salary) FROM employees e2 WHERE e1.department_id = e2.department_id);
+-----+
| name |
+-----+
| David |
+-----+
1 row in set (0.00 sec)
```

```
mysql>
mysql>
mysql> SELECT
-> dept_id, AVG(salary)
-> FROM
-> (SELECT department_id AS dept_id, salary FROM employees) AS dept_salaries
-> GROUP BY
-> dept_id;
```

dept_id	AVG(salary)
1	50000.0000
2	60000.0000
3	75000.0000

3 rows in set (0.00 sec)

```
mysql>
mysql> SELECT
-> name
-> FROM
-> employees e
-> WHERE
-> EXISTS (
```



```
mysql>
mysql>
mysql> SELECT
->     dept_id, AVG(salary)
-> FROM
->     (SELECT department_id AS dept_id, salary FROM employees) AS dept_salaries
-> GROUP BY
->     dept_id;
```

dept_id	AVG(salary)
1	50000.0000
2	60000.0000
3	75000.0000

3 rows in set (0.00 sec)

```
mysql>
mysql> SELECT
->     name
-> FROM
->     employees e
-> WHERE
->     EXISTS (
->         SELECT 1 FROM departments d WHERE d.id = e.department_id AND d.name = 'HR'
->     );
```

name
Mahi

1 row in set (0.00 sec)