

TUGAS 1
SQL SUB QUERY



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DESAIN BASIS DATA LANJUT

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FAKULTAS ILMU KOMPUTER
UPN "VETERAN" JAWA TIMUR

2022

Tabel departments:

department_id	department_name	manager_id	location_id
1	Administration	200	1700
2	Marketing	201	1800
3	Shipping	124	1500
4	IT	103	1400
5	Sales	149	2500
6	Executive	100	1700
7	Accounting	205	1700
8	Contracting	NULL	1700

Tabel employees:

employee_id	first_name	last_name	department_id
1	Ellen	Abel	5
2	Curtis	Davies	3
3	Lex	De Haan	6
4	Bruce	Ernst	4
5	Pat	Fay	2
6	William	Gietz	7

1. SubQuery

Query

```
1 SELECT employee_id, first_name, last_name FROM employees
2 WHERE department_id IN
3     (SELECT department_id FROM departments WHERE
      location_id=1700);
```

Output dari subquer seperti pada bari ke-3, yaitu sebagai berikut:

department_id
1
6
7
8

Output dari keseluruhan query di atas, yaitu sebagai berikut:

employee_id	first_name	last_name
3	Lex	De Haan
6	William	Gietz

2. Having

Query:

```
SELECT `department_id`, `department_name`, `manager_id`, `location_id` FROM  
`departments` HAVING `location_id` > 1400;
```

Output:

department_id	department_name	manager_id	location_id
1	Administration	200	1700
2	Marketing	201	1800
3	Shipping	124	1500
5	Sales	149	2500
6	Executive	100	1700
7	Accounting	205	1700
8	Contracting	NULL	1700

3. Group by

Query:

```
SELECT department_name, location_id FROM departments GROUP BY location_id;
```

Output:

department_name	location_id
IT	1400
Shipping	1500
Administration	1700
Marketing	1800
Sales	2500

4. References

Query:

```
ALTER TABLE `employees`  
  ADD CONSTRAINT `employees_ibfk_1` FOREIGN KEY (`department_id`)  
  REFERENCES `departments` (`department_id`);
```

Query di atas digunakan untuk menambahkan foreign key pada table employees yang berfungsi untuk menghubungkan dengan table departments.

5. Primary key, Foreign key

Query:

```
CREATE TABLE `employees` (  
  `employee_id` int(11) NOT NULL,  
  `first_name` varchar(100) NOT NULL,  
  `last_name` varchar(100) NOT NULL,  
  `department_id` int(11) NOT NULL,  
  PRIMARY KEY (`employee_id`),  
  CONSTRAINT `employees_ibfk_1` FOREIGN KEY (`department_id`)  
    REFERENCES `departments` (`department_id`);  
);
```

Query di atas digunakan untuk membuat table employees dengan employee_id sebagai primary key dan department_id sebagai foreign key.