

SQL 3



SQL complex

- SQL uses a three-valued logic:
 - TRUE, FALSE, and UNKNOWN (like Maybe)

	Condition 1 False = False	Condition 2 True = True
And	T	T
Or	F	F
NOT	F	T
U	U	U
F	F	F
U	U	U
F	F	F
U	U	U
F	F	F
U	U	U

EXISTS / NOT EXISTS (ສິ່ງທີ່ມີ)

Q16B: Retrieve the name of each employee who has a dependent with the same first name and is the same sex as the employee.

```
SELECT Fname, Lname
FROM EMPLOYEE AS E
WHERE EXISTS ( SELECT * FROM DEPENDENT AS D
                WHERE E.Ssn = D.Essn AND
                      D.Sex = E.Sex AND
                      E.Fname = D.Dependent_name );
```

Q6: Retrieve the names of employees who have no dependents.

```
SELECT Fname, Lname
FROM EMPLOYEE AS E
WHERE NOT EXISTS ( SELECT * FROM DEPENDENT WHERE Ssn = E.ssn );
```

Q7: List the names of managers who have at least one dependent.

```
SELECT Fname, Lname
FROM EMPLOYEE AS E
WHERE EXISTS ( SELECT * FROM DEPENDENT WHERE E.Ssn = D.Essn )
AND EXISTS ( SELECT * FROM DEPARTMENT WHERE Dno = E.Dno );
```

UNIQUE (Q) ດັວນເກມ: ແຈກຳ [ຝຶກຳ - False]

JOIN / INNER JOIN ຫຼືເລີມລົດ "NATURAL JOIN"

Q1A: SELECT Fname, Lname, Address
 FROM EMPLOYEE
 WHERE Dname='Research';

ນີ້join attribute ສັບລົດ ລົດ

(ນີ້join attribute ສັບລົດ ລົດ ລົດ) EQUI JOIN
NATURAL JOIN (ນີ້ມີມົດ attribute ສັບລົດ)



INNER JOIN, LEFT JOIN, RIGHT JOIN

ນີ້outer

Inner Join

Left Outer Join

Right Outer Join

check Null

NULL

- IS or IS NOT NULL

Check ຈີນ Null ຫຼາຍ

Query 18. Retrieve the names of all employees who do not have supervisors.

```
Q18: SELECT Fname, Lname
      FROM EMPLOYEE
      WHERE Super_ssn IS NULL;
```

Nested Queries

Q4A: SELECT DISTINCT Project_ProjNum
 FROM Project
 WHERE ProjNum IN (SELECT ProjNum
 FROM PROJECT_DEPARTMENT
 WHERE DeptNumber AND Manager_name = 'Smith');

Select the project number of all projects that have an employee with last name 'Smith' involved as manager.

OR

Q16A: SELECT E.Fname, E.Lname
 FROM EMPLOYEE AS E
 WHERE E.Ssn IN (SELECT E.Ssn
 FROM DEPENDENT AS D
 WHERE D.Ssn = E.Ssn AND D.Dependent_name = 'Smith');

Select the list of all employees who work the same projects listed combination in new project that have an employee last name 'Smith' involved as worker.

SELECT DISTINCT E.ssn
 FROM WORKS_ON (Pro, Hours) IN (SELECT Pro, Hours
 FROM WORKS_ON
 WHERE E.ssn = '123456789');

Select the list of all employees who work the same projects listed combination in new project that have an employee last name 'Smith' involved as worker.

Q16: SELECT E.Fname, E.Lname
 FROM EMPLOYEE AS E
 WHERE E.Ssn = D.Essn
 AND E.Sex = D.Sex
 AND E.Fname = D.Dependent_name;

Q16 ANY (SOME) ຕົວຢ່າງດອກນຸ່າທີ່ມີຂໍ້ຕະຫຼາດນີ້ຫຼັງໆ , ALL ກຳນົດກາ

Q16 ANY (SOME) = <, <=, >, >=, <>

ALL = &

Return the name of employees whose salary is greater than the salary of all the employees in department 5.

SELECT Lname, Fname
 FROM EMPLOYEE
 WHERE Salary > ALL (SELECT Salary
 FROM EMPLOYEE
 WHERE Dno=5);

Correlated nested query

- Evaluated once for each tuple in the outer query

* ໄລີ່ຍ່າຍືດພວກ / ກ່າກມ ທີ່ມີ ຂາມແນ້ນ ນີ້ AS