**1) Natural (Inner ) = (Equi Join)**

a) NATURAL JOIN

SELECT employee\_id, last\_name, department\_name

FROM employees NATURAL JOIN departments

b) USING keyword

SELECT employee\_id, last\_name,department\_name

FROM employees JOIN departments

USING (department\_id) ;

c) ON keyword

SELECT employee\_id, last\_name,department\_name

FROM employees JOIN departments

ON employees.department\_id = departments.department\_id

Formula:

emplooyes.department\_id = Departments.department\_id

child's FK = Parent's PK

THis is how you use Equi Join with ON with Table name alias

SELECT e.employee\_id, e.last\_name,d.department\_name

FROM employees e JOIN departments d

ON e.department\_id = d.department\_id

SELECT e.first\_name, e.last\_name, e.job\_id, e.salary, d.department\_name, d.manager\_id

FROM employees e JOIN departments d

ON e.department\_id=d.department\_id

SELECT e.first\_name, e.last\_name, e.salary, e.job\_id, d.department\_name, d.manager\_id

FROM employees e JOIN departments d

ON e.department\_id=d.department\_id

WHERE Job\_id IN ('SA\_REP' ,'SA\_MAN')

show me who is working as SA\_REP or SA\_MAN

SELECT first\_name, last\_name, job\_id, salary

FROM employees

WHERE job\_id IN ('SA\_REP', 'SA\_MAN')

Rule 1:

Formula:

emplooyes.department\_id = Departments.department\_id

child's FK = Parent's PK

Rule 2:

If there are two tables joining you have to have at least (n-1 -> 2-1=)1 ON join condition

if there are three tables joining you have to have at least (3-1=2) 2 ON condition

Get a list of employees who work for department 50 or 80, 90, 110 and also at the

same time who earn salary > 4500

List should include e.fname, e.last\_name, e.salary, d.department\_name,d.manager\_id, l.city, c.country\_name

employees e departments d locations l countries c

SELECT e.first\_name, e.last\_name, e.salary, d.department\_name,d.manager\_id, l.city, c.country\_name

FROM employees e JOIN departments d

ON e.department\_id=d.department\_id

JOIN locations l

ON d.location\_id = l.location\_id

JOIN countries c

ON l.country\_id=c.country\_id

WHERE e.department\_id IN (50 , 80, 90, 110) AND e.salary >4500

**2) SELF JOIN**

show which employee (first\_name, last\_name, salary) reports to which other employees (first\_name, last\_name)

SELECT wrk.first\_name, wrk.last\_name, wrk.salary , mgr.first\_name, mgr.last\_name

FROM employees wrk JOIN employees mgr

ON wrk.manager\_id = mgr.employee\_id

**Practice Questions**

1. Determine which books customer Jake Lucas has purchased. Perform the search using the customer’s name, not the customer number. If he has purchased multiple copies of the same book , unduplicated (DISTINCT)

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2 ) Create a list that displays the title of each book and the name and phone number of the contact at the publisher’s office for reordering each book