*(Remember that all of your tables will be out of the HTCDBDSQL schema!)*

# JOINS

1. The HR department needs a report of all employees with corresponding departments. Write

a query to display the last name, department number, and department name for all the

employees.

|  |  |  |
| --- | --- | --- |
| **LAST\_NAME** | **DEPARTMENT\_ID** | **DEPARTMENT\_NAME** |
| King | 90 | Executive |
| Kochhar | 90 | Executive |
| De Haan | 90 | Executive |
| Hunold | 60 | IT |
| Ernst | 60 | IT |
| Austin | 60 | IT |
| Pataballa | 60 | IT |
| Lorentz | 60 | IT |
| Greenberg | 100 | Finance |
| Faviet | 100 | Finance |
| More than 10 rows available. Increase rows selector to view more rows. | | |

SELECT emp.last\_name, dept.department\_id, dept.department\_name

FROM HTCDBDSQL.departments dept

JOIN HTCDBDSQL.employees emp

ON (emp.department\_id = dept.department\_id)

2. The HR department needs a report of employees in Toronto. Display the last name, job,

department number, and department name for all employees who work in Toronto. (HINT: 3 Tables are involved here!!!)

|  |  |  |  |
| --- | --- | --- | --- |
| **LAST\_NAME** | **JOB\_ID** | **DEPARTMENT\_ID** | **DEPARTMENT\_NAME** |
| Hartstein | MK\_MAN | 20 | Marketing |
| Fay | MK\_REP | 20 | Marketing |

SELECT last\_name, job\_id, dept.department\_id, dept.department\_name

FROM HTCDBDSQL.locations loc

JOIN HTCDBDSQL.departments dept

ON (dept.location\_id = loc.location\_id)

JOIN HTCDBDSQL.employees emp

ON (dept.department\_id = emp.department\_id)

WHERE loc.city = ‘Toronto’;

3. Create a report to display employees’ last names and employee number along with their

managers’ last names and manager number. Label the columns Employee, Emp#,

Manager, and Mgr#, respectively. Run the query.(HINT: SELF-JOIN!!!)

|  |  |  |  |
| --- | --- | --- | --- |
| **Employee** | **EMP#** | **Manager** | **Mgr#** |
| Kochhar | 101 | King | 100 |
| De Haan | 102 | King | 100 |
| Hunold | 103 | De Haan | 102 |
| Ernst | 104 | Hunold | 103 |
| Austin | 105 | Hunold | 103 |
| Pataballa | 106 | Hunold | 103 |
| Lorentz | 107 | Hunold | 103 |
| Greenberg | 108 | Kochhar | 101 |
| Faviet | 109 | Greenberg | 108 |
| Chen | 110 | Greenberg | 108 |
| More than 10 rows available. Increase rows selector to view more rows. | | | |

SELECT e.last\_name Employee, e.employee\_id EMP#, m.last\_name Manager, m.employee\_id Mgr#

FROM htcdbdsql.employees e

JOIN htcdbdsql.employees m

ON (e.manager\_id = m.employee\_id)

JOIN htcdbdsql.employees m

ON (e.last\_name = m.last\_name);

4. Modify the last script to display all employees including King, who has no manager.

Order the results by the employee number. Run the query. (I highlighted the row … yours will not look like this!)

|  |  |  |  |
| --- | --- | --- | --- |
| **Employee** | **EMP#** | **Manager** | **Mgr#** |
| King | 100 | - | - |
| Kochhar | 101 | King | 100 |
| De Haan | 102 | King | 100 |
| Hunold | 103 | De Haan | 102 |
| Ernst | 104 | Hunold | 103 |
| Austin | 105 | Hunold | 103 |
| Pataballa | 106 | Hunold | 103 |
| Lorentz | 107 | Hunold | 103 |
| Greenberg | 108 | Kochhar | 101 |
| Faviet | 109 | Greenberg | 108 |
| More than 10 rows available. Increase rows selector to view more rows. | | | |

SELECT e.last\_name Employee, e.employee\_id EMP#, m.last\_name Manager, m.employee\_id Mgr#

FROM HTCDBDSQL.employees e

LEFT OUTER JOIN HTCDBDSQL.employees m

ON (e.manager\_id = m.manager\_id)

ORDER BY e.employee\_id;

5. Create a report for the HR department that displays employee last names, department

numbers, and all the employees who work in the same department as a given employee.

Give each column an appropriate label. Run the query.

SELECT e.department\_id Department, e.last\_name Employee, c.last\_name Colleague

FROM HTCDBDSQL.employees e

JOIN HTCDBDSQL.employees c

ON (e.department\_id = c.department\_id)

WHERE e.employee\_id <> c.employee\_id

ORDER BY e.department\_id, e.last\_name, c.last\_name;

|  |  |  |
| --- | --- | --- |
| **DEPARTMENT** | **EMPLOYEE** | **COLLEAGUE** |
| 20 | Fay | Hartstein |
| 20 | Hartstein | Fay |
| 30 | Baida | Colmenares |
| 30 | Baida | Himuro |
| 30 | Baida | Khoo |
| 30 | Baida | Raphaely |
| 30 | Baida | Tobias |
| 30 | Colmenares | Baida |
| 30 | Colmenares | Himuro |
| 30 | Colmenares | Khoo |
| More than 10 rows available. Increase rows selector to view more rows. | | |

# SUBQUERIES

Many of these could be answered using joins. DON’T!! Use subqueries.

1. The HR department needs a report that displays the last name, department number, and

job ID of all employees ***whose department location ID is 1700***. Although you *could* answer this using a JOIN, I want you to use a subquery. What is the inner query? Start there.

|  |  |  |
| --- | --- | --- |
| **LAST\_NAME** | **DEPARTMENT\_ID** | **JOB\_ID** |
| King | 90 | AD\_PRES |
| Kochhar | 90 | AD\_VP |
| De Haan | 90 | AD\_VP |
| Greenberg | 100 | FI\_MGR |
| Faviet | 100 | FI\_ACCOUNT |
| Chen | 100 | FI\_ACCOUNT |
| Sciarra | 100 | FI\_ACCOUNT |
| Urman | 100 | FI\_ACCOUNT |
| Popp | 100 | FI\_ACCOUNT |
| Raphaely | 30 | PU\_MAN |
| More than 10 rows available. Increase rows selector to view more rows. | | |

SELECT last\_name, department\_id, job\_id

FROM HTCDBDSQL.employees

WHERE department\_id IN

(SELECT department\_id

FROM HTCDBDSQL.departments

WHERE location\_id = 1700);

2. Create a report for HR that displays the last name and salary of every employee who

reports to Steven King.

|  |  |
| --- | --- |
| **LAST\_NAME** | **SALARY** |
| Kochhar | 17000 |
| De Haan | 17000 |
| Raphaely | 11000 |
| Weiss | 8000 |
| Fripp | 8200 |
| Kaufling | 7900 |
| Vollman | 6500 |
| Mourgos | 5800 |
| Russell | 14000 |
| Partners | 13500 |
| More than 10 rows available. Increase rows selector to view more rows. | |

SELECT last\_name, salary

FROM HTCDBDSQL.employees

WHERE manager\_id IN

(SELECT employee\_id

FROM HTCDBDSQL.employees

WHERE last\_name = 'King');

3. Create a report that displays a list of all employees whose salary is more than the salary of

any employee from department 60.

|  |
| --- |
| **LAST\_NAME** |
| King |
| Kochhar |
| De Haan |
| Russell |
| Partners |
| Hartstein |
| Greenberg |
| Higgins |
| Errazuriz |
| Ozer |
| More than 10 rows available. Increase rows selector to view more rows. |

SELECT last\_name

FROM htcdbdsql.employees

WHERE salary > ANY

(SELECT salary

FROM htcdbdsql.employees

WHERE department\_is = 60);

# SET QUERIES

Okay, now that you have mastered Joins and Subqueries, you can’t use that knowledge here! You must do this with SET OPERATORS (ie. UNION, UNION ALL, MINUS, INTERSECT)

1. The HR department needs a list of department IDs for departments that do not contain the

job ID ST\_CLERK. Use the set operators to create this report.

|  |
| --- |
| **DEPARTMENT\_ID** |
| 10 |
| 20 |
| 30 |
| 40 |
| 60 |
| 70 |
| 80 |
| 90 |
| 100 |
| 110 |
| More than 10 rows available. Increase rows selector to view more rows |

SELECT department\_id

FROM HTCDBDSQL.departments

MINUS

SELECT department\_id

FROM HTCDBDSQL.employees

WHERE job\_id = 'ST\_CLERK';

2. The HR department needs a list of countries that have no departments located in them.

Display the country ID and the name of the countries. Use the set operators to create this

report.

|  |  |
| --- | --- |
| **COUNTRY\_ID** | **COUNTRY\_NAME** |
| AR | Argentina |
| AU | Australia |
| BE | Belgium |
| BR | Brazil |
| CH | Switzerland |
| CN | China |
| DK | Denmark |
| EG | Egypt |
| FR | France |
| IL | Israel |
| More than 10 rows available. Increase rows selector to view more rows. | |

I’M A BIT CONFUSED ON THIS ONE FOR SOME REASON!

SELECT country\_id,country\_name

FROM c.htcdbdsql.countries

MINUS

SELECT l.country\_id,c.country\_name

FROM htcdbdsql.locations l, htcdbdsql.countries c

WHERE l.country\_id = c.country\_id;

3. Produce a list of jobs for departments 10, 50, and 20, in that order. Display job ID and

department ID using the set operators.

|  |  |
| --- | --- |
| **JOB\_ID** | **DEPARTMENT\_ID** |
| AD\_ASST | 10 |
| ST\_MAN | 50 |
| SH\_CLERK | 50 |
| ST\_CLERK | 50 |
| MK\_MAN | 20 |
| MK\_REP | 20 |

SELECT job\_id, department\_id

FROM htcdbdsql.employees

WHERE department\_id = 10

UNION

SELECT job\_id, department\_id

FROM htcdbdsql.employees

WHERE department\_id = 50

UNION

SELECT job\_id, department\_id

FROM htcdbdsql.employees

WHERE department\_id = 20;