

#### Inner versus Outer Joins

JOINs

# **Objetives**

# Compare and contrast an inner and an outer join

# Construct and execute a

- query to use a left outer join
- query to use a right outer join
- query to use a full outer join





#### **Purpose**

Up to now, all of the joins returned data that matched the join condition.

Sometimes, however, we want to retrieve both the data that meets the join condition, and the data that does not meet the join condition.

The outer joins in ANSI-99 SQL allow this functionality.



#### **INNER And OUTER Joins**

In ANSI-99 SQL, a join of two or more tables that returns only the matched rows is called an inner join.

outer join

- When a join returns the unmatched rows as well as the matched rows, it is called an outer join.
- Outer join syntax uses the terms "left, full, and right".

These names are associated with the order of the table names in the FROM clause of the SELECT statement.



# **LEFT and RIGHT OUTER Joins**

- In the example shown of a left outer join,
  - note that the table name listed to the left of the words "left outer join" is referred to as the "left table."
- ▶ This query will return
  - all employee last names, both those that are assigned to a department and those that are not.

1 SELECT e.last_name, d.department_id, d.department_name 2 FROM employees e 3			
LAST_NAME	DEPARTMENT_ID	DEPARTMENT_NAME	
Grant		-	
Gietz	110	Accounting	
Higgins	110	Accounting	
Kochhar	90	Executive	
De Haan	90	Executive	
King	90	Executive	
Abel	80	Sales	
Zlotkey	80	Sales	
Taylor	80	Sales	
Lorentz	60	ІТ	





# **LEFT and RIGHT OUTER Joins**

- This right outer join would return
  - all department IDs and department names, both those that have employees assigned to them and those that do not.

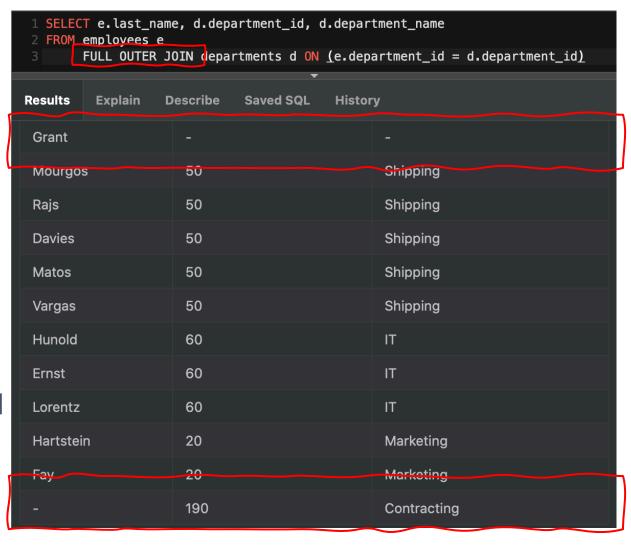
<pre>1 SELECT e.last_name, d.department_id, d.department_name 2 FROM employees e 3</pre>		
Results Explain Describe Saved SQL History		
LAST_NAME	DEPARTMENT_ID	DEPARTMENT_NAME
-	190	Contracting
Zlotkey	80	Sales
Whalen	10	Administration
Vargas	50	Shipping
Taylor	80	Sales
Rajs	50	Shipping
Mourgos	50	Shipping
Matos	50	Shipping
Lorentz	60	IΤ
Kochhar	90	Executive





# **FULL OUTER Join**

- It is possible to create a join condition to retrieve all matching rows and all unmatched rows from both tables.
- Using a full outer join solves this problem.
- The result set of a full outer join includes
  - all rows from a left outer join and
  - all rows from a right outer join
  - combined together without duplication.







#### Join Scenario

- Construct a join to display a list of
  - employees,
  - their current job\_id and
  - any previous jobs they may have held.

