

Basic Select (chap7.4)			Basic Select (chap7.4) (cont)			Intermediate select (cont)			Aggregate functions (cont)				
Select columns	SELECT colname1, colname2 FROM Table1		Select based on fuzzy string matching	SELECT colname1, colname2 FROM Table1 WHERE colname1 LIKE '%word%'		List unique values only	SELECT DISTINCT colname1, colname2 FROM Table1		In Oracle, Null value will be included as one distance value; use ORDER BY colname NULLS FIRST to place nulls at top of list		Use aggregate functions on computed values	SELECT SUM/AVG/MIN/MAX(colname1 - colname2) FROM Table1	
Conditional select	SELECT colname1, colname2 FROM Table1 WHERE colname1 = value1	Other operators: >, <, >=, <=, <>(or !=)	Select based on value in a list	SELECT colname1, colname2 FROM Table1 WHERE colname1 in (value1, value2)	all members in list must be same type; can be used in conjunction with subqueries	Select maximum and minimum values in an attribute	SELECT MAX(MIN(colname1)) FROM Table1	Yields ONLY ONE VALUE; can only be used inside a SELECT query					
Select based on logical conditions	SELECT colname1, colname2 FROM Table1 WHERE colname1 = value1 AND colname2 > value2	Other logical operators: OR, NOT				Select sum and average of an attribute	SELECT SUM/AVG(G(colname1)) FROM Table1	Yields ONLY ONE VALUE; can only be used inside a SELECT query					
Select based on value in range	SELECT colname1, colname2 FROM Table1 WHERE colname1 BETWEEN lower limit AND upper limite	Smaller value must be first in Oracle	Order results of select query	SELECT colname1, colname2 FROM Table1 ORDER BY colname1, colname2									
Select null values	SELECT colname1, colname2 FROM Table1 WHERE colname3 IS NULL		Intermediate select										
											*Group by clause		
											Calculate aggregate function based on group membership	SELECT colname1, MAX(colname2) FROM Table1 GROUP BY colname1	GROUP BY must be used in conjunction with Aggregate functions; GROUP BY clause must include all columns in the column list other than those in the aggregate function; can include columns that are not selected at all
											Filter the result of GROUP BY clause with HAVING clause	SELECT colname1, MAX(colname2) FROM Table1 GROUP BY colname1 HAVING MAX(colname2) > value1	In Oracle, column alias can be used for the result of the aggregate function column



Relational Set Operators

Get all records from two relations excluding duplicates	Set1 UNION Set2
Get all records from two relations including duplicates	Set1 UNION ALL Set2
Get all records in both relations	Set1 INTERSECT Set2
Get all records in relations 1 but not in relation 2	Set1 MINUS Set2

Utility Functions

Formatting datetime into character	TO_CHAR R(date_value, fmt)	MONTH; MON; MM; D(DOW); DD(DOM); DAY;YYY Y;YY
Formatting character into datetime	TO_DATE E(character_string)	Same as above
Current date	SYSDATE	
Adding months to a date	ADD_MONTHS(date_value, n)	
Absolute value	ABS()	
Round value to a specific precision	ROUND(numeric_value, p)	
Ceiling value	CEIL(numeric_value)	

Utility Functions (cont)

Floor value	FLOOR(numeric_value)
Concatenating String	string1 string2 string3
Uppercase	UPPER(string_value)
Lowercase	LOWER(string_value)
Subset a string	SUBSTR(string_value, starting_index, ending_index)
length of a string	LENGTH(string_value)

Join

Inner joins	INNER JOIN
Join two table on common attributes but retain rows in the first table without a match	LEFT JOIN
Join two table on common attributes but retain rows in the second table without a match	RIGHT JOIN
Join two table on common attributes but retain unmatched rows	FULL JOIN

