**FUNCTIONS**

**Functions can be categorized as follows.**

* **Single row functions**
* **Group functions**

**SINGLE ROW FUNCTIONS**

**Single row functions can be categorized into five. These will be applied for each row and produces individual output for each row.**

* **Numeric functions**
* **String functions**
* **Date functions**
* **Miscellaneous functions**
* **Conversion functions**

**NUMERIC FUNCTIONS**

* **Abs**
* **Sign**
* **Sqrt**
* **Mod**
* **Nvl**
* **Power**
* **Exp**
* **Ln**
* **Log**
* **Ceil**
* **Floor**
* **Round**
* **Trunk**
* **Bitand**
* **Greatest**
* **Least**
* **Coalesce**

**a) ABS Absolute value is the measure of the magnitude of value.**

**Absolute value is always a positive number.**

**Syntax: abs (*value*)**

**Ex: SQL> select abs(5), abs(-5), abs(0), abs(null) from dual;**

**ABS(5) ABS(-5) ABS(0) ABS(NULL)**

**---------- ---------- ---------- -------------**

**5 -5 0**

**b) SIGN Sign gives the sign of a value.**

**Syntax: sign (*value*)**

**Ex: SQL> select sign(5), sign(-5), sign(0), sign(null) from dual;**

**SIGN(5) SIGN(-5) SIGN(0) SIGN(NULL)**

**---------- ---------- ---------- --------------**

**1 -1 0**

**c) SQRT `**

**Syntax: sqrt (*value*) -- here value must be positive.**

**Ex: SQL> select sqrt(4), sqrt(0), sqrt(null), sqrt(1) from dual;**

**SQRT(4) SQRT(0) SQRT(NULL) SQRT(1)**

**---------- ---------- --------------- ----------**

**2 0 1**

**d) MOD This will give the remainder.**

**Syntax: mod (*value, divisor*)**

**Ex: SQL> select mod(7,4), mod(1,5), mod(null,null), mod(0,0), mod(-7,4) from dual;**

**MOD(7,4) MOD(1,5) MOD(NULL,NULL) MOD(0,0) MOD(-7,4)**

**------------ ---------- --------------------- ----------- -------------**

**3 1 0 -3**

**e) NVL This will substitutes the specified value in the place of null values.**

**Syntax: nvl (*null\_col, replacement\_value*)**

**Ex: SQL> select \* from student; -- here for 3rd row marks value is null**

**NO NAME MARKS**

**--- ------- ---------**

**1 a 100**

**2 b 200**

**3 c**

**SQL> select no, name, nvl(marks,300) from student;**

**NO NAME NVL(MARKS,300)**

**--- ------- ---------------------**

**1 a 100**

**2 b 200**

**3 c 300**

**SQL> select nvl(1,2), nvl(2,3), nvl(4,3), nvl(5,4) from dual;**

**NVL(1,2) NVL(2,3) NVL(4,3) NVL(5,4)**

**---------- ---------- ---------- ----------**

**1 2 4 5**

**SQL> select nvl(0,0), nvl(1,1), nvl(null,null), nvl(4,4) from dual;**

**NVL(0,0) NVL(1,1) NVL(null,null) NVL(4,4)**

**---------- ---------- ----------------- ----------**

**0 1 4**

**f) POWER Power is the ability to raise a value to a given exponent.**

**Syntax: power (*value, exponent*) Ex: SQL> select power(2,5), power(0,0), power(1,1), power(null,null), power(2,-5) from**

**dual;**

**POWER(2,5) POWER(0,0) POWER(1,1) POWER(NULL,NULL) POWER(2,-5)**

**-------------- -------------- ----- --------- ----------------------- ---------------**

**32 1 1 .03125**

**g) EXP**

**This will raise e value to the give power.**

**Syntax: exp (*value*)**

**Ex: SQL> select exp(1), exp(2), exp(0), exp(null), exp(-2) from dual;**

**EXP(1) EXP(2) EXP(0) EXP(NULL) EXP(-2)**

**-------- --------- -------- ------------- ----------**

**2.71828183 7.3890561 1 .135335283**

**h) LN This is based on natural or base e logarithm.**

**Syntax: ln (*value*) -- here value must be greater than zero which is positive only.**

**Ex: SQL> select ln(1), ln(2), ln(null) from dual;**

**LN(1) LN(2) LN(NULL)**

**------- ------- ------------**

**0 .693147181**

**Ln and Exp are reciprocal to each other.**

**EXP (3) = 20.0855369**

**LN (20.0855369) = 3**

**i) LOG This is based on 10 based logarithm.**

**Syntax: log (10, *value*) -- here value must be greater than zero which is positive only.**

**Ex: SQL> select log(10,100), log(10,2), log(10,1), log(10,null) from dual;**

**LOG(10,100) LOG(10,2) LOG(10,1) LOG(10,NULL)**

**--------------- ----------- ------------ -----------------**

**2 .301029996 0**

**LN (value) = LOG (EXP(1), value)**

**SQL> select ln(3), log(exp(1),3) from dual;**

**LN(3) LOG(EXP(1),3)**

**------- -----------------**

**1.09861229 1.09861229**

**j) CEIL This will produce a whole number that is greater than or equal to the specified value.**

**Syntax: ceil (*value*)**

**Ex: SQL> select ceil(5), ceil(5.1), ceil(-5), ceil( -5.1), ceil(0), ceil(null) from dual;**

**CEIL(5) CEIL(5.1) CEIL(-5) CEIL(-5.1) CEIL(0) CEIL(NULL)**

**--------- ----------- ---------- ------------ -------- --------------**

**5 6 -5 -5 0**

**k) FLOOR This will produce a whole number that is less than or equal to the specified value.**

**Syntax: floor (*value*)**

**Ex: SQL> select floor(5), floor(5.1), floor(-5), floor( -5.1), floor(0), floor(null) from dual;**

**FLOOR(5) FLOOR(5.1) FLOOR(-5) FLOOR(-5.1) FLOOR(0) FLOOR(NULL)**

**----------- ------------- ------------ -------------- ----------- ----------------**

**5 5 -5 -6 0**

**l) ROUND This will rounds numbers to a given number of digits of precision.**

**Syntax: round (*value, precision*)**

**Ex: SQL> select round(123.2345), round(123.2345,2), round(123.2354,2) from dual;**

**ROUND(123.2345) ROUND(123.2345,0) ROUND(123.2345,2) ROUND(123.2354,2)**

**--------------------- ------------------------ ----------------------- -----------------------**

**123 123 123.23 123.24**

**SQL> select round(123.2345,-1), round(123.2345,-2), round(123.2345,-3),**

**round(123.2345,-4) from dual;**

**ROUND(123.2345,-1) ROUND(123.2345,-2) ROUND(123.2345,-3) ROUND(123.2345,-4)**

**------------------------ ------------------------- ------------------------ ------------------------**

**120 100 0 0**

**SQL> select round(123,0), round(123,1), round(123,2) from dual;**

**ROUND(123,0) ROUND(123,1) ROUND(123,2)**

**----------------- ----------------- ----------------**

**123 123 123**

**SQL> select round(-123,0), round(-123,1), round(-123,2) from dual;**

**ROUND(-123,0) ROUND(-123,1) ROUND(-123,2)**

**------------------ ----------------- -------------------**

**-123 -123 -123**

**SQL> select round(123,-1), round(123,-2), round(123,-3), round(-123,-1), round(-123,-**

**2), round(-123,-3) from dual;**

**ROUND(123,-1) ROUND(123,-2) ROUND(123,-3) ROUND(-123,-1) ROUND(-123,-2)**

**ROUND(-123,-3)**

**------------- ------------- ------------- -------------- -------------- --------------**

**120 100 0 -120 -100 0**

**SQL> select round(null,null), round(0,0), round(1,1), round(-1,-1), round(-2,-2) from**

**dual;**

**ROUND(NULL,NULL) ROUND(0,0) ROUND(1,1) ROUND(-1,-1) ROUND(-2,-2)**

**----------------------- -------------- -------------- ---------------- ----------------**

**0 1 0 0**

**m) TRUNC This will truncates or chops off digits of precision from a number.**

**Syntax: trunc (*value, precision*)**

**Ex: SQL> select trunc(123.2345), trunc(123.2345,2), trunc(123.2354,2) from dual;**

**TRUNC(123.2345) TRUNC(123.2345,2) TRUNC(123.2354,2)**

**--------------------- ----------------------- -----------------------**

**123 123.23 123.23**

**SQL> select trunc(123.2345,-1), trunc(123.2345,-2), trunc(123.2345,-3),**

**trunc(123.2345,-4) from dual;**

**TRUNC(123.2345,-1) TRUNC(123.2345,-2) TRUNC(123.2345,-3) TRUNC(123.2345,-4)**

**------------------------ ------------------------ ----------------------- ------------------------**

**120 100 0 0**

**SQL> select trunc(123,0), trunc(123,1), trunc(123,2) from dual;**

**TRUNC(123,0) TRUNC(123,1) TRUNC(123,2)**

**---------------- ---------------- -----------------**

**123 123 123**

**SQL> select trunc(-123,0), trunc(-123,1), trunc(-123,2) from dual;**

**TRUNC(-123,0) TRUNC(-123,1) TRUNC(-123,2)**

**----------------- ----------------- -----------------**

**-123 -123 -123**

**SQL> select trunc(123,-1), trunc(123,-2), trunc(123,-3), trunc(-123,-1), trunc(-123,2),**

**trunc(-123,-3) from dual;**

**TRUNC(123,-1) TRUNC(123,-2) TRUNC(123,-3) TRUNC(-123,-1) TRUNC(-123,2) TRUNC(-**

**123,-3)**

**------------- ------------- ------------- -------------- ------------- --------------**

**120 100 0 -120 -123 0**

**SQL> select trunc(null,null), trunc(0,0), trunc(1,1), trunc(-1,-1), trunc(-2,-2) from dual;**

**TRUNC(NULL,NULL) TRUNC(0,0) TRUNC(1,1) TRUNC(-1,-1) TRUNC(-2,-2)**

**----------------------- ------------- ------------- --------------- ----------------**

**0 1 0 0**

**n) BITAND This will perform bitwise and operation.**

**Syntax: bitand (*value1, value2*)**

**Ex: SQL> select bitand(2,3), bitand(0,0), bitand(1,1), bitand(null,null), bitand(-2,-3) from**

**dual;**

**BITAND(2,3) BITAND(0,0) BITAND(1,1) BITAND(NULL,NULL) BITAND(-2,-3)**

**-------------- --------------- -------------- ------------------------ -----------------**

**2 0 1 -4**

**o) GREATEST This will give the greatest number.**

**Syntax: greatest (*value1, value2, value3 … valuen*)**

**Ex: SQL> select greatest(1, 2, 3), greatest(-1, -2, -3) from dual;**

**GREATEST(1,2,3) GREATEST(-1,-2,-3)**

**-------------------- -----------------------**

**3 -1**

* **If all the values are zeros then it will display zero.**
* **If all the parameters are nulls then it will display nothing.**
* **If any of the parameters is null it will display nothing.**

**p) LEAST This will give the least number.**

**Syntax: least (*value1, value2, value3 … valuen*)**

**Ex: SQL> select least(1, 2, 3), least(-1, -2, -3) from dual;**

**LEAST(1,2,3) LEAST(-1,-2,-3)**

**-------------------- -----------------------**

**1 -3**

* **If all the values are zeros then it will display zero.**
* **If all the parameters are nulls then it will display nothing.**
* **If any of the parameters is null it will display nothing.**

**q) COALESCE This will return first non-null value.**

**Syntax: coalesce (*value1, value2, value3 … valuen*)**

**Ex: SQL> select coalesce(1,2,3), coalesce(null,2,null,5) from dual;**

**COALESCE(1,2,3) COALESCE(NULL,2,NULL,5)**

**------------------- -------------------------------**

**1 2**

**STRING FUNCTIONS**

* **Initcap**
* **Upper**
* **Lower**
* **Length**
* **Rpad**
* **Lpad**
* **Ltrim**
* **Rtrim**
* **Trim**
* **Translate**
* **Replace**
* **Soundex**
* **Concat ( ‘ || ‘ Concatenation operator)**
* **Ascii**
* **Chr**
* **Substr**
* **Instr**
* **Decode**
* **Greatest**
* **Least**
* **Coalesce**

**a) INITCAP**

**This will capitalize the initial letter of the string.**

**Syntax: initcap (*string*)**

**Ex: SQL> select initcap('computer') from dual;**

**INITCAP**

**-----------**

**Computer**

**b) UPPER This will convert the string into uppercase.**

**Syntax: upper (*string*)**

**Ex: SQL> select upper('computer') from dual;**

**UPPER**

**-----------**

**COMPUTER**

**c) LOWER This will convert the string into lowercase.**

**Syntax: lower (*string*)**

**Ex: SQL> select lower('COMPUTER') from dual;**

**LOWER**

**-----------**

**computer**

**d) LENGTH This will give length of the string.**

**Syntax: length (*string*)**

**Ex: SQL> select length('computer') from dual;**

**LENGTH**

**-----------**

**8**

**e) RPAD This will allows you to pad the right side of a column with any set of characters.**

**Syntax: rpad (*string, length [, padding\_char]*)**

**Ex: SQL> select rpad('computer',15,'\*'), rpad('computer',15,'\*#') from dual;**

**RPAD('COMPUTER' RPAD('COMPUTER'**

**---------------------- ----------------------**

**computer\*\*\*\*\*\*\* computer\*#\*#\*#\***

**-- Default padding character was blank space.**

**f) LPAD This will allows you to pad the left side of a column with any set of characters.**

**Syntax: lpad (*string, length [, padding\_char]*)**

**Ex: SQL> select lpad('computer',15,'\*'), lpad('computer',15,'\*#') from dual;**

**LPAD('COMPUTER' LPAD('COMPUTER'**

**--------------------- ---------------------**

**\*\*\*\*\*\*\*computer \*#\*#\*#\*computer**

**-- Default padding character was blank space.**

**g) LTRIM This will trim off unwanted characters from the left end of string.**

**Syntax: ltrim (*string [,unwanted\_chars]*)**

**Ex: SQL> select ltrim('computer','co'), ltrim('computer','com') from dual;**

**LTRIM( LTRIM**

**-------- ---------**

**mputer puter**

**SQL> select ltrim('computer','puter'), ltrim('computer','omputer') from dual;**

**LTRIM('C LTRIM('C**

**---------- ----------**

**computer computer**

**-- If you haven’t specify any unwanted characters it will display entire string.**

**h) RTRIM**

**This will trim off unwanted characters from the right end of string.**

**Syntax: rtrim (*string [, unwanted\_chars]*)**

**Ex: SQL> select rtrim('computer','er'), rtrim('computer','ter') from dual;**

**RTRIM( RTRIM**

**-------- ---------**

**comput compu**

**SQL> select rtrim('computer','comput’), rtrim('computer','compute') from dual;**

**RTRIM('C RTRIM('C**

**---------- ----------**

**computer computer**

**-- If you haven’t specify any unwanted characters it will display entire string.**

**i) TRIM This will trim off unwanted characters from the both sides of string.**

**Syntax: trim (*unwanted\_chars* from *string*)**

**Ex: SQL> select trim( 'i' from 'indiani') from dual;**

**TRIM(**

**-----**

**ndian**

**SQL> select trim( leading'i' from 'indiani') from dual; -- this will work as LTRIM**

**TRIM(L**

**------**

**ndiani**

**SQL> select trim( trailing'i' from 'indiani') from dual; -- this will work as RTRIM**

**TRIM(T**

**------**

**Indian**

**j) TRANSLATE This will replace the set of characters, character by character.**

**Syntax: translate (*string, old\_chars, new\_chars*)**

**Ex: SQL> select translate('india','in','xy') from dual;**

**TRANS**

**--------**

**xydxa**

**k) REPLACE**

**This will replace the set of characters, string by string.**

**Syntax: replace (*string, old\_chars [, new\_chars]*)**

**Ex: SQL> select replace('india','in','xy'), replace(‘india’,’in’) from dual;**

**REPLACE REPLACE**

**----------- -----------**

**Xydia dia**

**l) SOUNDEX**

**This will be used to find words that sound like other words, exclusively used in where clause.**

**Syntax: soundex (*string*)**

**Ex: SQL> select \* from emp where soundex(ename) = soundex('SMIT');**

**EMPNO ENAME JOB MGR HIREDATE SAL DEPTNO**

**-------- -------- ----- ----- ------------ --------- ----------**

**7369 SMITH CLERK 7902 17-DEC-80 500 20**

**m) CONCAT This will be used to combine two strings only.**

**Syntax: concat (*string1, string2*)**

**Ex: SQL> select concat('computer',' operator') from dual;**

**CONCAT('COMPUTER'**

**-------------------------**

**computer operator**

**If you want to combine more than two strings you have to use concatenation operator (||).**

**SQL> select 'how' || ' are' || ' you' from dual;**

**'HOW'||'ARE**

**---------------**

**how are you**

**n) ASCII**

**This will return the decimal representation in the database character set of the first**

**character of the string.**

**Syntax: ascii (*string*)**

**Ex: SQL> select ascii('a'), ascii('apple') from dual;**

**ASCII('A') ASCII('APPLE')**

**------------ ------------------**

**97 97**

**o) CHR**

**This will return the character having the binary equivalent to the string in either the**

**database character set or the national character set.**

**Syntax: chr (*number*)**

**Ex: SQL> select chr(97) from dual;**

**CHR**

**-----**

**a**

**p) SUBSTR This will be used to extract substrings.**

**Syntax: substr (*string, start\_chr\_count [, no\_of\_chars]*)**

**Ex:**

**SQL> select substr('computer',2), substr('computer',2,5), substr('computer',3,7) from**

**dual;**

**SUBSTR( SUBST SUBSTR**

**---------- ------- --------**

**omputer omput mputer**

* **If *no\_of\_chars* parameter is negative then it will display nothing.**
* **If both parameters except *string* are null or zeros then it will display nothing.**
* **If *no\_of\_chars* parameter is greater than the length of the string then it ignores and calculates based on the orginal string length.**
* **If *start\_chr\_count* is negative then it will extract the substring from right end.**

**1 2 3 4 5 6 7 8**

**C O M P U T E R**

**-8 -7 -6 -5 -4 -3 -2 -1**

**q) INSTR**

**This will allows you for searching through a string for set of characters.**

**Syntax: instr (*string, search\_str [, start\_chr\_count [, occurrence] ]*)**

**Ex: SQL> select instr('information','o',4,1), instr('information','o',4,2) from dual;**

**INSTR('INFORMATION','O',4,1) INSTR('INFORMATION','O',4,2)**

**------------------------------------ -------------------------------------**

**4 10**

* **If you are not specifying *start\_chr\_count* and *occurrence* then it will start search from**

**the beginning and finds first occurrence only.**

* **If both parameters *start\_chr\_count* and *occurrence* are null, it will display nothing.**

**r) DECODE**

**Decode will act as value by value substitution.**

**For every value of field, it will checks for a match in a series of if/then tests.**

**Syntax: decode (*value, if1, then1, if2, then2, ……. else*);**

**Ex: SQL> select sal, decode(sal,500,'Low',5000,'High','Medium') from emp;**

**SAL DECODE**

**----- ---------**

**500 Low**

**2500 Medium**

**2000 Medium**

**3500 Medium**

**3000 Medium**

**5000 High**

**4000 Medium**

**5000 High**

**1800 Medium**

**1200 Medium**

**2000 Medium**

**2700 Medium**

**2200 Medium**

**3200 Medium**

**SQL> select decode(1,1,3), decode(1,2,3,4,4,6) from dual;**

**DECODE(1,1,3) DECODE(1,2,3,4,4,6)**

**----------------- ------------------------**

**3 6**

* **If the number of parameters are odd and different then decode will display nothing.**
* **If the number of parameters are even and different then decode will display last**

**value.**

* **If all the parameters are null then decode will display nothing.**
* **If all the parameters are zeros then decode will display zero.**

**s) GREATEST**

**This will give the greatest string.**

**Syntax: greatest (*strng1, string2, string3 … stringn*)**

**Ex: SQL> select greatest('a', 'b', 'c'), greatest('satish','srinu','saketh') from dual;**

**GREAT GREAT**

**------- -------**

**c srinu**

* **If all the parameters are nulls then it will display nothing.**
* **If any of the parameters is null it will display nothing.**

**t) LEAST**

**This will give the least string.**

**Syntax: greatest (*strng1, string2, string3 … stringn*)**

**Ex: SQL> select least('a', 'b', 'c'), least('satish','srinu','saketh') from dual;**

**LEAST LEAST**

**------- -------**

**a saketh**

* **If all the parameters are nulls then it will display nothing.**
* **If any of the parameters is null it will display nothing.**

**u) COALESCE This will gives the first non-null string.**

**Syntax: coalesce (*strng1, string2, string3 … stringn*)**

**Ex: SQL> select coalesce('a','b','c'), coalesce(null,'a',null,'b') from dual;**

**COALESCE COALESCE**

**----------- -----------**

**a a**

**DATE FUNCTIONS**

* **Sysdate**
* **Current\_date**
* **Current\_timestamp**
* **Systimestamp**
* **Localtimestamp**
* **Dbtimezone**
* **Sessiontimezone**
* **To\_char**
* **To\_date**
* **Add\_months**
* **Months\_between**
* **Next\_day**
* **Last\_day**
* **Extract**
* **Greatest**
* **Least**
* **Round**
* **Trunc**
* **New\_time**
* **Coalesce**

**Oracle default date format is DD-MON-YY.**

**We can change the default format to our desired format by using the following command.**

**SQL> alter session set nls\_date\_format = ‘DD-MONTH-YYYY’;**

**But this will expire once the session was closed.**

**a) SYSDATE**

**This will give the current date and time.**

**Ex: SQL> select sysdate from dual;**

**SYSDATE**

**-----------**

**24-DEC-06**

**b) CURRENT\_DATE This will returns the current date in the session’s timezone.**

**Ex: SQL> select current\_date from dual;**

**CURRENT\_DATE**

**------------------**

**24-DEC-06**

**c) CURRENT\_TIMESTAMP**

**This will returns the current timestamp with the active time zone information.**

**Ex: SQL> select current\_timestamp from dual;**

**CURRENT\_TIMESTAMP**

**---------------------------------------------------------------------------**

**24-DEC-06 03.42.41.383369 AM +05:30**

**d) SYSTIMESTAMP**

**This will returns the system date, including fractional seconds and time zone of the**

**database.**

**Ex: SQL> select systimestamp from dual;**

**SYSTIMESTAMP**

**---------------------------------------------------------------------------**

**24-DEC-06 03.49.31.830099 AM +05:30**

**e) LOCALTIMESTAMP**

**This will returns local timestamp in the active time zone information, with no time zone**

**information shown.**

**Ex: SQL> select localtimestamp from dual;**

**LOCALTIMESTAMP**

**---------------------------------------------------------------------------**

**24-DEC-06 03.44.18.502874 AM**

**f) DBTIMEZONE**

**This will returns the current database time zone in UTC format. (Coordinated Universal Time)**

**Ex: SQL> select dbtimezone from dual;**

**DBTIMEZONE**

**---------------**

**-07:00**

**g) SESSIONTIMEZONE**

**This will returns the value of the current session’s time zone.**

**Ex: SQL> select sessiontimezone from dual;**

**SESSIONTIMEZONE**

**---------------------------------------------------------------------------**

**+05:30**

**h) TO\_CHAR This will be used to extract various date formats.**

**The available date formats as follows.**

**Syntax: to\_char (*date*, *format*)**

**DATE FORMATS**

**D -- No of days in week**

**DD -- No of days in month**

**DDD -- No of days in year**

**MM -- No of month**

**MON -- Three letter abbreviation of month**

**MONTH -- Fully spelled out month**

**RM -- Roman numeral month**

**DY -- Three letter abbreviated day**

**DAY -- Fully spelled out day**

**Y -- Last one digit of the year**

**YY -- Last two digits of the year**

**YYY -- Last three digits of the year**

**YYYY -- Full four digit year**

**SYYYY -- Signed year**

**I -- One digit year from ISO standard**

**IY -- Two digit year from ISO standard**

**IYY -- Three digit year from ISO standard**

**IYYY -- Four digit year from ISO standard**

**Y, YYY -- Year with comma**

**YEAR -- Fully spelled out year**

**CC -- Century**

**Q -- No of quarters**

**W -- No of weeks in month**

**WW -- No of weeks in year**

**IW -- No of weeks in year from ISO standard**

**HH -- Hours**

**MI -- Minutes**

**SS -- Seconds**

**FF -- Fractional seconds**

**AM or PM -- Displays AM or PM depending upon time of day**

**A.M or P.M -- Displays A.M or P.M depending upon time of day**

**AD or BC -- Displays AD or BC depending upon the date**

**A.D or B.C -- Displays AD or BC depending upon the date**

**FM -- Prefix to month or day, suppresses padding of month or day**

**TH -- Suffix to a number**

**SP -- suffix to a number to be spelled out**

**SPTH -- Suffix combination of TH and SP to be both spelled out**

**THSP -- same as SPTH**

**Ex:**

**SQL> select to\_char(sysdate,'dd month yyyy hh:mi:ss am dy') from dual;**

**TO\_CHAR(SYSDATE,'DD MONTH YYYYHH:MI**

**----------------------------------------------------**

**24 december 2006 02:03:23 pm sun**

**SQL> select to\_char(sysdate,'dd month year') from dual;**

**TO\_CHAR(SYSDATE,'DDMONTHYEAR')**

**-------------------------------------------------------**

**24 december two thousand six**

**SQL> select to\_char(sysdate,'dd fmmonth year') from dual;**

**TO\_CHAR(SYSDATE,'DD FMMONTH YEAR')**

**-------------------------------------------------------**

**24 december two thousand six**

**SQL> select to\_char(sysdate,'ddth DDTH') from dual;**

**TO\_CHAR(S**

**------------**

**24th 24TH**

**SQL> select to\_char(sysdate,'ddspth DDSPTH') from dual;**

**TO\_CHAR(SYSDATE,'DDSPTHDDSPTH**

**------------------------------------------**

**twenty-fourth TWENTY-FOURTH**

**SQL> select to\_char(sysdate,'ddsp Ddsp DDSP ') from dual;**

**TO\_CHAR(SYSDATE,'DDSPDDSPDDSP')**

**------------------------------------------------**

**twenty-four Twenty-Four TWENTY-FOUR**

**i) TO\_DATE**

**This will be used to convert the string into data format.**

**Syntax: to\_date (*date*)**

**Ex:**

**SQL> select to\_char(to\_date('24/dec/2006','dd/mon/yyyy'), 'dd \* month \* day') from**

**dual;**

**TO\_CHAR(TO\_DATE('24/DEC/20**

**--------------------------**

**24 \* december \* Sunday**

**-- If you are not using to\_char oracle will display output in default date format.**

**j) ADD\_MONTHS**

**This will add the specified months to the given date.**

**Syntax: add\_months (*date, no\_of\_months*)**

**Ex:**

**SQL> select add\_months(to\_date('11-jan-1990','dd-mon-yyyy'), 5) from dual;**

**ADD\_MONTHS**

**----------------**

**11-JUN-90**

**SQL> select add\_months(to\_date('11-jan-1990','dd-mon-yyyy'), -5) from dual;**

**ADD\_MONTH**

**---------------**

**11-AUG-89**

* **If *no\_of\_months* is zero then it will display the same date.**
* **If *no\_of\_months* is null then it will display nothing.**

**k) MONTHS\_BETWEEN**

**This will give difference of months between two dates.**

**Syntax: months\_between (*date1, date2*)**

**Ex:**

**SQL> select months\_between(to\_date('11-aug-1990','dd-mon-yyyy'), to\_date('11-jan-**

**1990','dd-mon-yyyy')) from dual;**

**MONTHS\_BETWEEN(TO\_DATE('11-AUG-1990','DD-MON-YYYY'),TO\_DATE('11-JAN-1990','DD-MON-YYYY'))**

**-----------------------------------------------------------------------------------------------**

**7**

**SQL> select months\_between(to\_date('11-jan-1990','dd-mon-yyyy'), to\_date('11-aug-**

**1990','dd-mon-yyyy')) from dual;**

**MONTHS\_BETWEEN(TO\_DATE('11-JAN-1990','DD-MON-YYYY'),TO\_DATE('11-AUG-1990','DD-MON-YYYY'))**

**-------------------------------------------------------------------------------------------------**

**-7**

**l) NEXT\_DAY**

**This will produce next day of the given day from the specified date.**

**Syntax: next\_day (*date, day*)**

**Ex:**

**SQL> select next\_day(to\_date('24-dec-2006','dd-mon-yyyy'),'sun') from dual;**

**NEXT\_DAY(**

**-------------**

**31-DEC-06**

**-- If the day parameter is null then it will display nothing.**

**m) LAST\_DAY**

**This will produce last day of the given date.**

**Syntax: last\_day (*date*)**

**Ex:**

**SQL> select last\_day(to\_date('24-dec-2006','dd-mon-yyyy'),'sun') from dual;**

**LAST\_DAY(**

**-------------**

**31-DEC-06**

**n) EXTRACT**

**This is used to extract a portion of the date value.**

**Syntax: extract ((year | month | day | hour | minute | second), *date*)**

**Ex:**

**SQL> select extract(year from sysdate) from dual;**

**EXTRACT(YEARFROMSYSDATE)**

**------------------------------------**

**2006**

**-- You can extract only one value at a time.**

**o) GREATEST This will give the greatest date.**

**Syntax: greatest (*date1, date2, date3 … daten*)**

**Ex: SQL> select greatest(to\_date('11-jan-90','dd-mon-yy'),to\_date('11-mar-90','dd-mon-**

**yy'),to\_date('11-apr-90','dd-mon-yy')) from dual;**

**GREATEST(**

**-------------**

**11-APR-90**

**p) LEAST This will give the least date.**

**Syntax: least (*date1, date2, date3 … daten*)**

**Ex: SQL> select least(to\_date('11-jan-90','dd-mon-yy'),to\_date('11-mar-90','dd-mon-**

**yy'),to\_date('11-apr-90','dd-mon-yy')) from dual;**

**LEAST(**

**-------------**

**11-JAN-90**

**q) ROUND Round will rounds the date to which it was equal to or greater than the given date.**

**Syntax: round (*date, (*day | month | year*)*)**

**If the second parameter was *year* then round will checks the month of the given date in the**

**following ranges.**

**JAN -- JUN**

**JUL -- DEC**

**If the month falls between JAN and JUN then it returns the first day of the current year.**

**If the month falls between JUL and DEC then it returns the first day of the next year.**

**If the second parameter was *month* then round will checks the day of the given date in the**

**following ranges.**

**1 -- 15**

**16 -- 31**

**If the day falls between 1 and 15 then it returns the first day of the current month.**

**If the day falls between 16 and 31 then it returns the first day of the next month.**

**If the second parameter was *day* then round will checks the week day of the given date in**

**the following ranges.**

**SUN -- WED**

**THU -- SUN**

**If the week day falls between SUN and WED then it returns the previous sunday.**

**If the weekday falls between THU and SUN then it returns the next sunday.**

* **If the second parameter was null then it returns nothing.**
* **If the you are not specifying the second parameter then round will resets the time to the**

**begining of the current day in case of user specified date.**

* **If the you are not specifying the second parameter then round will resets the time to the**

**begining of the next day in case of sysdate.**

**Ex: SQL> select round(to\_date('24-dec-04','dd-mon-yy'),'year'), round(to\_date('11-mar-**

**06','dd-mon-yy'),'year') from dual;**

**ROUND(TO\_ ROUND(TO\_**

**------------ ---------------**

**01-JAN-05 01-JAN-06**

**SQL> select round(to\_date('11-jan-04','dd-mon-yy'),'month'), round(to\_date('18-jan-**

**04','dd-mon-yy'),'month') from dual;**

**ROUND(TO\_ ROUND(TO\_**

**------------- ---------------**

**01-JAN-04 01-FEB-04**

**SQL> select round(to\_date('26-dec-06','dd-mon-yy'),'day'), round(to\_date('29-dec-**

**06','dd-mon-yy'),'day') from dual;**

**ROUND(TO\_ ROUND(TO\_**

**-------------- --------------**

**24-DEC-06 31-DEC-06**

**SQL> select to\_char(round(to\_date('24-dec-06','dd-mon-yy')), 'dd mon yyyy hh:mi:ss am')**

**from dual;**

**TO\_CHAR(ROUND(TO\_DATE('**

**---------------------------------**

**24 dec 2006 12:00:00 am**

**r) TRUNC Trunc will chops off the date to which it was equal to or less than the given date.**

**Syntax: trunc (*date, (*day | month | year*)*)**

* **If the second parameter was *year* then it always returns the first day of the current year.**
* **If the second parameter was *month* then it always returns the first day of the current month.**
* **If the second parameter was *day* then it always returns the previous sunday.**
* **If the second parameter was null then it returns nothing.**
* **If the you are not specifying the second parameter then trunk will resets the time to the**

**begining of the current day.**

**Ex:**

**SQL> select trunc(to\_date('24-dec-04','dd-mon-yy'),'year'), trunc(to\_date('11-mar-**

**06','dd-mon-yy'),'year') from dual;**

**TRUNC(TO\_ TRUNC(TO\_**

**------------- --------------**

**01-JAN-04 01-JAN-06**

**SQL> select trunc(to\_date('11-jan-04','dd-mon-yy'),'month'), trunc(to\_date('18-jan-**

**04','dd-mon-yy'),'month') from dual;**

**TRUNC(TO\_ TRUNC(TO\_**

**------------- -------------**

**01-JAN-04 01-JAN-04**

**SQL> select trunc(to\_date('26-dec-06','dd-mon-yy'),'day'), trunc(to\_date('29-dec-06','dd-**

**mon-yy'),'day') from dual;**

**TRUNC(TO\_ TRUNC(TO\_**

**------------- --------------**

**24-DEC-06 24-DEC-06**

**SQL> select to\_char(trunc(to\_date('24-dec-06','dd-mon-yy')), 'dd mon yyyy hh:mi:ss am')**

**from dual;**

**TO\_CHAR(TRUNC(TO\_DATE('**

**---------------------------------**

**24 dec 2006 12:00:00 am**

**s) NEW\_TIME**

**This will give the desired timezone’s date and time.**

**Syntax: new\_time (*date, current\_timezone, desired\_timezone*)**

**Available timezones are as follows.**

**TIMEZONES**

**AST/ADT -- Atlantic standard/day light time**

**BST/BDT -- Bering standard/day light time**

**CST/CDT -- Central standard/day light time**

**EST/EDT -- Eastern standard/day light time**

**GMT -- Greenwich mean time**

**HST/HDT -- Alaska-Hawaii standard/day light time**

**MST/MDT -- Mountain standard/day light time**

**NST -- Newfoundland standard time**

**PST/PDT -- Pacific standard/day light time**

**YST/YDT -- Yukon standard/day light time**

**Ex:**

**SQL> select to\_char(new\_time(sysdate,'gmt','yst'),'dd mon yyyy hh:mi:ss am') from dual;**

**TO\_CHAR(NEW\_TIME(SYSDAT**

**-----------------------------------**

**24 dec 2006 02:51:20 pm**

**SQL> select to\_char(new\_time(sysdate,'gmt','est'),'dd mon yyyy hh:mi:ss am') from dual;**

**TO\_CHAR(NEW\_TIME(SYSDAT**

**-----------------------**

**24 dec 2006 06:51:26 pm**

**t) COALESCE**

**This will give the first non-null date.**

**Syntax: coalesce (*date1, date2, date3 … daten*)**

**Ex: SQL> select coalesce('12-jan-90','13-jan-99'), coalesce(null,'12-jan-90','23-mar-98',null)**

**from dual;**

**COALESCE( COALESCE(**

**------------- ------------**

**12-jan-90 12-jan-90**

**MISCELLANEOUS FUNCTIONS**

* **Uid**
* **User**
* **Vsize**
* **Rank**
* **Dense\_rank**

**a) UID This will returns the integer value corresponding to the user currently logged in.**

**Ex: SQL> select uid from dual;**

**UID**

**----------**

**319**

**b) USER This will returns the login’s user name.**

**Ex: SQL> select user from dual;**

**USER**

**----------------**

**SAKETH**

**c) VSIZE This will returns the number of bytes in the expression.**

**Ex: SQL> select vsize(123), vsize('computer'), vsize('12-jan-90') from dual;**

**VSIZE(123) VSIZE('COMPUTER') VSIZE('12-JAN-90')**

**------------- ----------------------- ----------------------**

**3 8 9**

**d) RANK**

**This will give the non-sequential ranking.**

**Ex:**

**SQL> select rownum,sal from (select sal from emp order by sal desc);**

**ROWNUM SAL**

**---------- ----------**

**1 5000**

**2 3000**

**3 3000**

**4 2975**

**5 2850**

**6 2450**

**7 1600**

**8 1500**

**9 1300**

**10 1250**

**11 1250**

**12 1100**

**13 1000**

**14 950**

**15 800**

**SQL> select rank(2975) within group(order by sal desc) from emp;**

**RANK(2975)WITHINGROUP(ORDERBYSALDESC)**

**---------------------------------------------------------**

**4**

**d) DENSE\_RANK This will give the sequential ranking.**

**Ex: SQL> select dense\_rank(2975) within group(order by sal desc) from emp;**

**DENSE\_RANK(2975)WITHINGROUP(ORDERBYSALDESC)**

**-----------------------------------------------------------------**

**3**

**CONVERSION FUNCTIONS**

* **Bin\_to\_num**
* **Chartorowid**
* **Rowidtochar**
* **To\_number**
* **To\_char**
* **To\_date**

**a) BIN\_TO\_NUM**

**This will convert the binary value to its numerical equivalent.**

**Syntax: bin\_to\_num( *binary\_bits*)**

**Ex: SQL> select bin\_to\_num(1,1,0) from dual;**

**BIN\_TO\_NUM(1,1,0)**

**------------------------**

**6**

* **If all the bits are zero then it produces zero.**
* **If all the bits are null then it produces an error.**

**b) CHARTOROWID**

**This will convert a character string to act like an internal oracle row identifier or rowid.**

**c) ROWIDTOCHAR**

**This will convert an internal oracle row identifier or rowid to character string.**

**d) TO\_NUMBER**

**This will convert a char or varchar to number.**

**e) TO\_CHAR**

**This will convert a number or date to character string.**

**f) TO\_DATE**

**This will convert a number, char or varchar to a date.**

**GROUP FUNCTIONS**

* **Sum**
* **Avg**
* **Max**
* **Min**
* **Count**

**Group functions will be applied on all the rows but produces single output.**

**a) SUM This will give the sum of the values of the specified column.**

**Syntax: sum (*column*)**

**Ex: SQL> select sum(sal) from emp;**

**SUM(SAL)**

**----------**

**38600**

**b) AVG This will give the average of the values of the specified column.**

**Syntax: avg (*column*)**

**Ex: SQL> select avg(sal) from emp;**

**AVG(SAL)**

**---------------**

**2757.14286**

**c) MAX This will give the maximum of the values of the specified column.**

**Syntax: max (*column*)**

**Ex: SQL> select max(sal) from emp;**

**MAX(SAL)**

**----------**

**5000**

**d) MIN This will give the minimum of the values of the specified column.**

**Syntax: min (*column*)**

**Ex: SQL> select min(sal) from emp;**

**MIN(SAL)**

**----------**

**500**

**e) COUNT This will give the count of the values of the specified column.**

**Syntax: count (*column*)**

**Ex: SQL> select count(sal),count(\*) from emp;**

**COUNT(SAL) COUNT(\*)**

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**14 14**