

3

Using Single-Row Functions to Customize Output

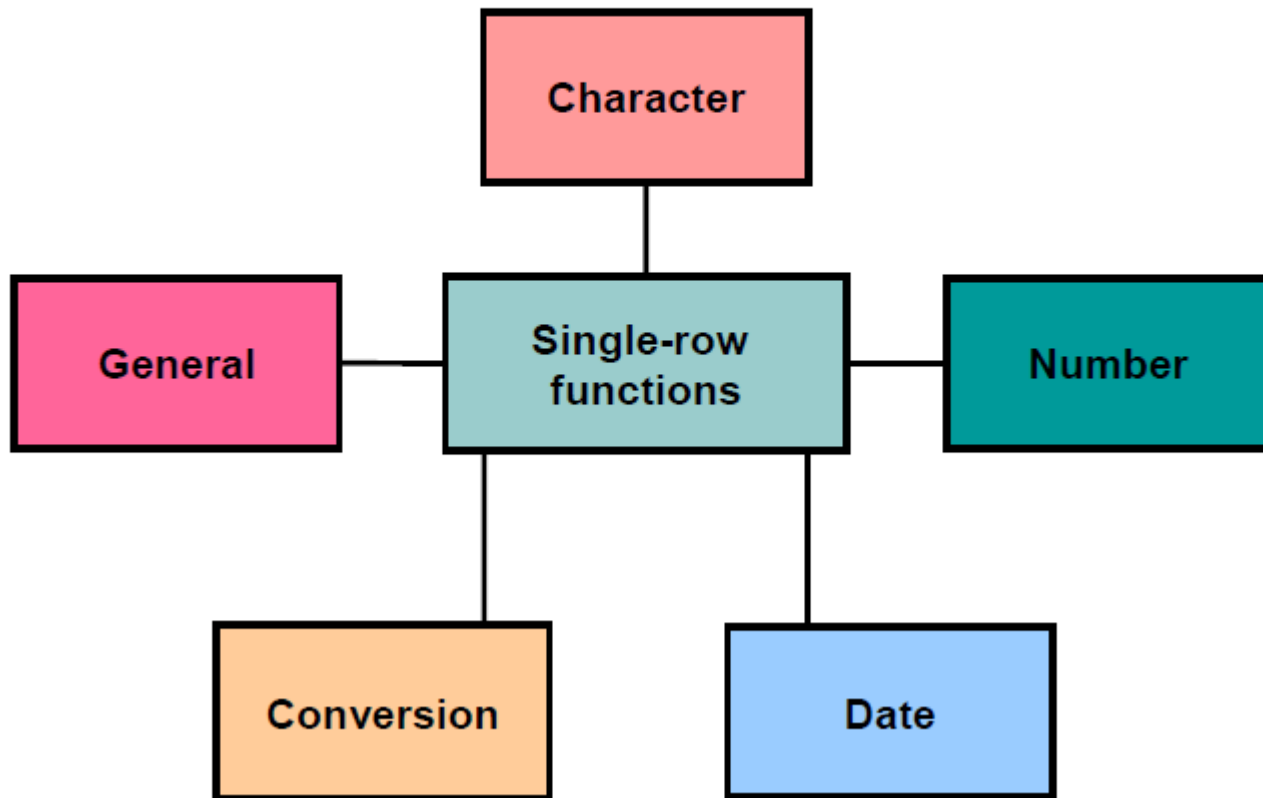
Single-Row Functions

Single-row functions:

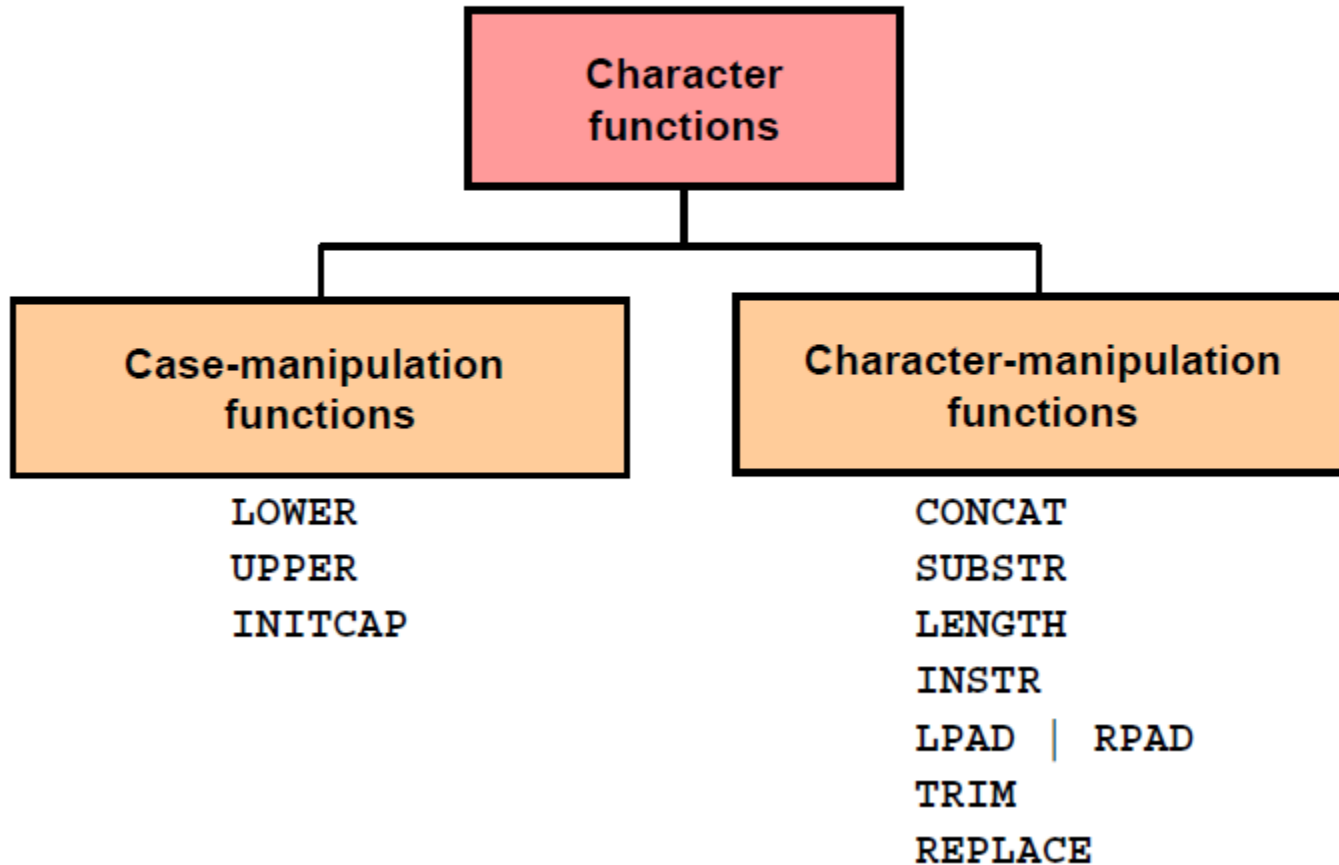
- Manipulate data items
- Accept arguments and return one value
- Act on each row that is returned
- Return one result per row
- May modify the data type
- Can be nested
- Accept arguments that can be a column or an expression

```
function_name [(arg1, arg2,...)]
```

Single-Row Functions



Character Functions



Case-Manipulation Functions

These functions convert case for character strings:

Function	Result
<code>LOWER('SQL Course')</code>	sql course
<code>UPPER('SQL Course')</code>	SQL COURSE
<code>INITCAP('SQL Course')</code>	Sql Course

Using Case-Manipulation Functions

Display the employee number, name, and department number for employee Higgins:

```
SELECT employee_id, last_name, department_id
FROM employees
WHERE last_name = 'higgins';
no rows selected
```

```
SELECT employee_id, last_name, department_id
FROM employees
WHERE LOWER(last_name) = 'higgins';
```

EMPLOYEE_ID	LAST_NAME	DEPARTMENT_ID
205	Higgins	110

Character-Manipulation Functions

These functions manipulate character strings:

Function	Result
<code>CONCAT('Hello', 'World')</code>	HelloWorld
<code>SUBSTR('HelloWorld',1,5)</code>	Hello
<code>LENGTH('HelloWorld')</code>	10
<code>INSTR('HelloWorld', 'W')</code>	6
<code>LPAD(salary,10,'*')</code>	*****24000
<code>RPAD(salary, 10, '*')</code>	24000*****
<code>REPLACE('JACK and JUE','J','BL')</code>	BLACK and BLUE
<code>TRIM('H' FROM 'HelloWorld')</code>	elloWorld

Using the Character-Manipulation Functions

```
SELECT employee_id, CONCAT(first_name, last_name) NAME,  
       job_id, LENGTH (last_name),  
       INSTR(last_name, 'a') 'Contains 'a'?'  
FROM employees  
WHERE SUBSTR(job_id, 4) = 'REP';
```

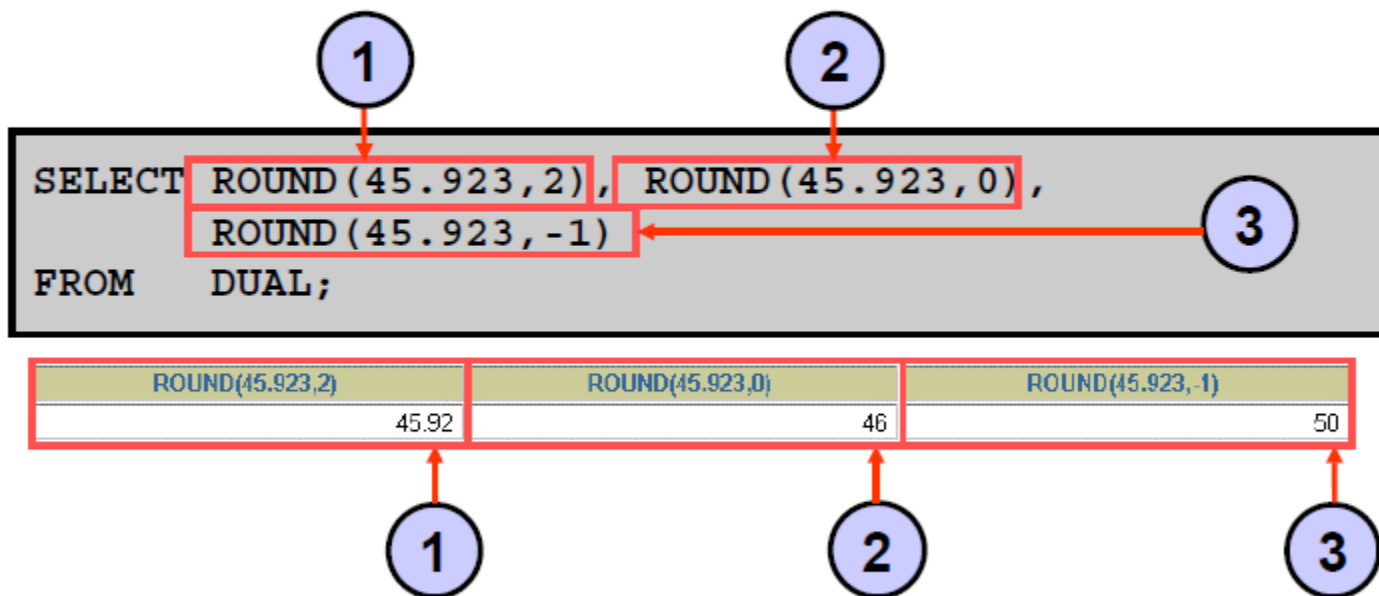
EMPLOYEE_ID	NAME	JOB_ID	LENGTH(LAST_NAME)	Contains 'a'?
174	EllenAbel	SA_REP	4	0
176	JonathonTaylor	SA_REP	6	2
178	KimberelyGrant	SA_REP	5	3
202	PatFay	MK_REP	3	2

Number Functions

- **ROUND:** Rounds value to specified decimal
- **TRUNC:** Truncates value to specified decimal
- **MOD:** Returns remainder of division

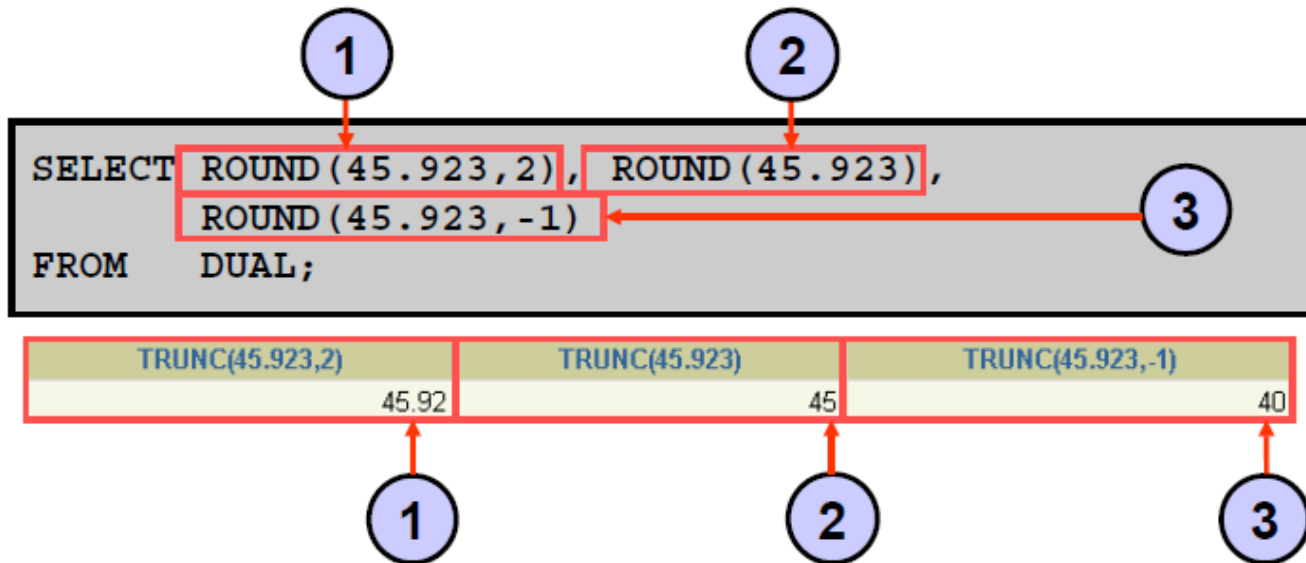
Function	Result
<code>ROUND (45.926, 2)</code>	45.93
<code>TRUNC (45.926, 2)</code>	45.92
<code>MOD (1600, 300)</code>	100

Using the ROUND Function



DUAL is a dummy table that you can use to view results from functions and calculations.

Using the TRUNC Function



Date Functions

Function	Result
MONTHS_BETWEEN	Number of months between two dates
ADD_MONTHS	Add calendar months to date
NEXT_DAY	Next day of the date specified
LAST_DAY	Last day of the month
ROUND	Round date
TRUNC	Truncate date

Using Date Functions

Function	Result
MONTHS_BETWEEN ('01-SEP-95', '11-JAN-94')	19.6774194
ADD_MONTHS ('11-JAN-94', 6)	'11-JUL-94'
NEXT_DAY ('01-SEP-95', 'FRIDAY')	'08-SEP-95'
LAST_DAY ('01-FEB-95')	'28-FEB-95'

Using Date Functions

Assume SYSDATE = '25-JUL-03':

Function	Result
ROUND (SYSDATE, 'MONTH')	01-AUG-03
ROUND (SYSDATE , 'YEAR')	01-JAN-04
TRUNC (SYSDATE , 'MONTH')	01-JUL-03
TRUNC (SYSDATE , 'YEAR')	01-JAN-03