

# Working with Dates

- The Oracle Database stores dates in an internal numeric format: century, year, month, day, hours, minutes, and seconds.
- The default date display format is DD-MON-RR.
  - Enables you to store 21st-century dates in the 20th century by specifying only the last two digits of the year
  - Enables you to store 20th-century dates in the 21st century in the same way

```
SELECT order_id, round(order_date), order_status
FROM orders
WHERE order_date <= '21-MAR-96';
```

	ORDER_ID	ROUND(ORDER_DATE)	ORDER_STATUS
1	2442	28-JUL-90	9
2	2445	28-JUL-90	8

# RR Date Format

Current Year	Specified Date	RR Format	YY Format
1995	27-OCT-95	1995	1995
1995	27-OCT-17	2017	1917
2001	27-OCT-17	2017	2017
2001	27-OCT-95	1995	2095

		If the specified two-digit year is:	
		0–49	50–99
If two digits of the current year are:	0–49	The return date is in the current century	The return date is in the century before the current one
	50–99	The return date is in the century after the current one	The return date is in the current century




# Using the SYSDATE Function

•SYSDATE is a function that returns:

- Date
- Time

```
SELECT sysdate  
FROM dual;
```

	 SYSDATE
1	10-JUN-09

## Arithmetic with Dates

- **Add or subtract a number to or from a date for a resultant date value.**
- **Subtract two dates to find the number of days between those dates.**
- **Add hours to a date by dividing the number of hours by 24.**

## Using Arithmetic Operators with Dates

```
SELECT order_id, (SYSDATE - round(Order_date)) / 7 AS "WEEKS"  
FROM orders  
WHERE order_id IN(2458, 2397, 2454);
```

	ORDER_ID	WEEKS
1	2397	599.501043320105820105820105820106
2	2454	606.358186177248677248677248677249
3	2458	613.072471891534391534391534391534

## Date-Manipulation 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 ('31-JAN-96',1)	'29-FEB-96'
NEXT_DAY ('01-SEP-95','FRIDAY')	'08-SEP-95'
LAST_DAY ('01-FEB-95')	'28-FEB-95'



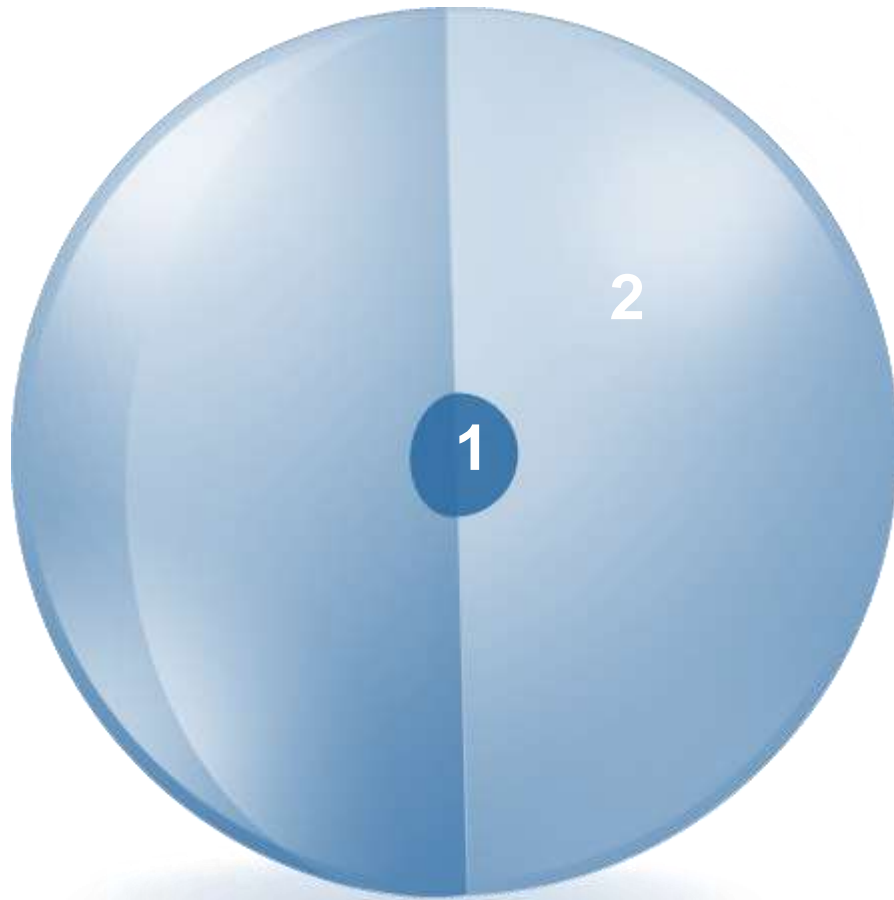
## Using ROUND and TRUNC Functions with Dates

- 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

- Which of the following statements are true about single-row functions?
  - 1.Manipulate data items
  - 2.Accept arguments and return one value per argument
  - 3.Act on each row that is returned
  - 4.Return one result per set of rows
  - 5.May not modify the data type
  - 6.Can be nested
  - 7.Accept arguments that can be a column or an expression

## Session Summary



1.

**1. Perform calculations on data using functions**

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2.

**2. Modify individual data items using functions**

## Practice 3: Overview

This practice covers the following topics

