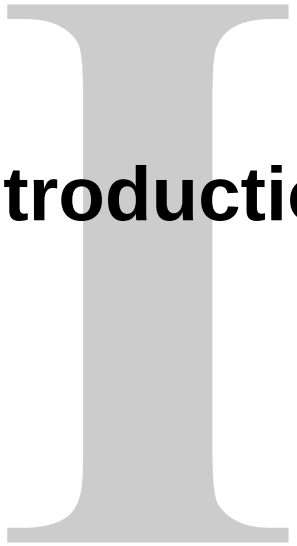

# Introduction

# Lesson Objectives

After completing this lesson, you should be able to do the following:

- Discuss the goals of the course
- Describe the database schema and tables that are used in the course
- Identify the available environments that can be used in the course
- Review some of the basic concepts of SQL

# Lesson Agenda

- Course objectives and course agenda
- The database schema and appendixes used in the course and the available development environment in this course
- Review of some basic concepts of SQL
- Oracle Database 11*g* documentation and additional resources

# Course Objectives

After completing this course, you should be able to do the following:

- Control database access to specific objects
- Add new users with different levels of access privileges
- Manage schema objects
- Manage objects with data dictionary views
- Manipulate large data sets in the Oracle database by using subqueries
- Manage data in different time zones
- Write multiple-column subqueries
- Use scalar and correlated subqueries
- Use the regular expression support in SQL

# Course Prerequisites

The *Oracle Database 11g: SQL Fundamentals I* course is a prerequisite for this course.

# Course Agenda

- Day 1:
  - Introduction
  - Controlling User Access
  - Managing Schema Objects
  - Managing Objects with Data Dictionary Views
- Day 2:
  - Manipulating Large Data Sets
  - Managing Data in Different Time Zones
  - Retrieving Data by Using Subqueries
  - Regular Expression Support

# Lesson Agenda

- Course objectives and course agenda
- The database schema and appendixes used in the course and the available development environment in this course
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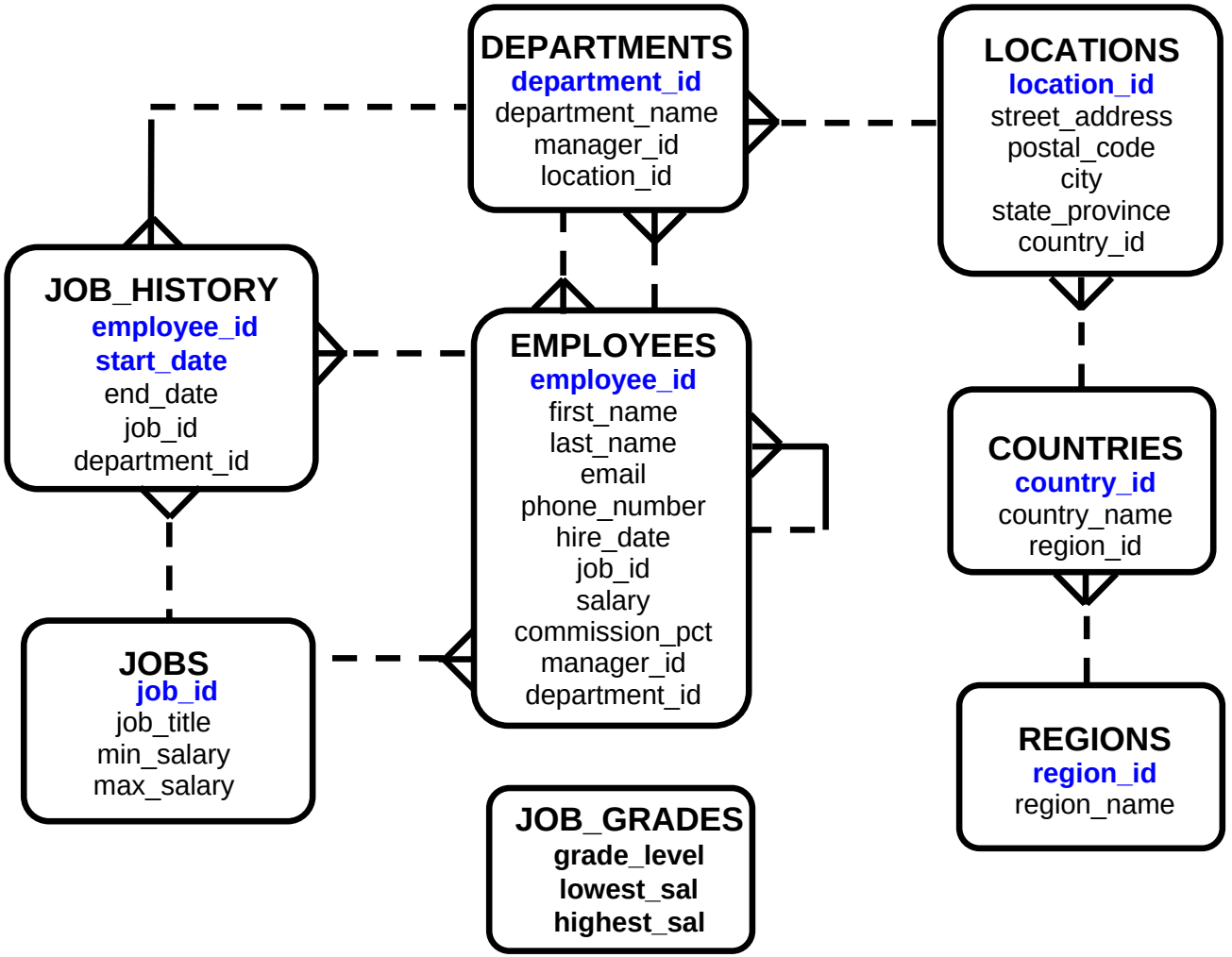
# Tables Used in This Course



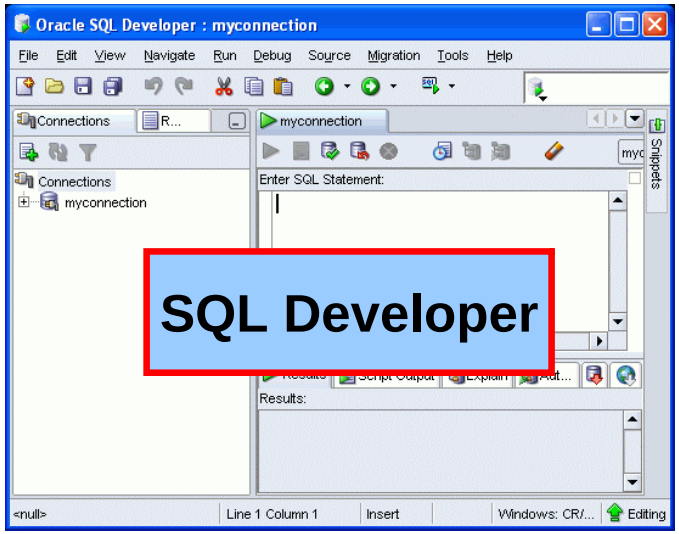
# Appendixes Used in This Course

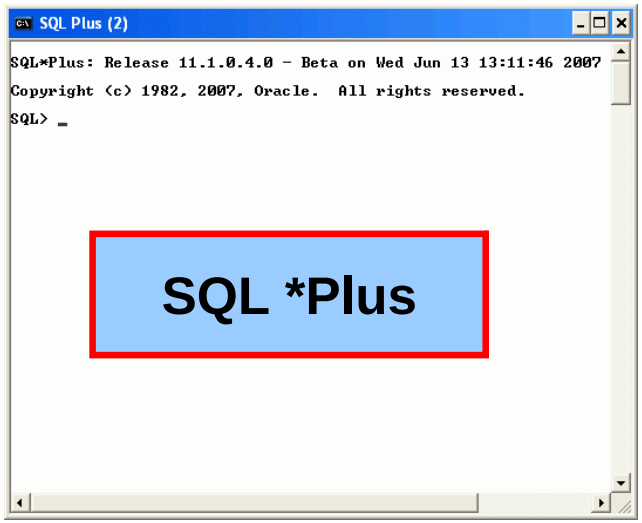
- Appendix A: Practices and Solutions
- Appendix B: Table Descriptions
- Appendix C: Using SQL Developer
- Appendix D: Using SQL*Plus
- Appendix E: Using JDeveloper
- Appendix F: Generating Reports by Grouping Related Data
- Appendix G: Hierarchical Retrieval
- Appendix H: Writing Advanced Scripts
- Appendix I: Oracle Database Architectural Components

# Development Environments

There are two development environments for this course:

- The primary tool is Oracle SQL Developer.
- You can also use SQL*Plus command-line interface.



# Lesson Agenda

- Course objectives and course agenda
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# Review of Restricting Data

- Restrict the rows that are returned by using the `WHERE` clause.
- Use comparison conditions to compare one expression with another value or expression.

| Operator | Meaning |
|---|---|
| `BETWEEN ...AND...` | Between two values (inclusive) |
| `IN(set)` | Match any of a list of values |
| `LIKE` | Match a character pattern |

- Use logical conditions to combine the result of two component conditions and produce a single result based on those conditions.

# Review of Sorting Data

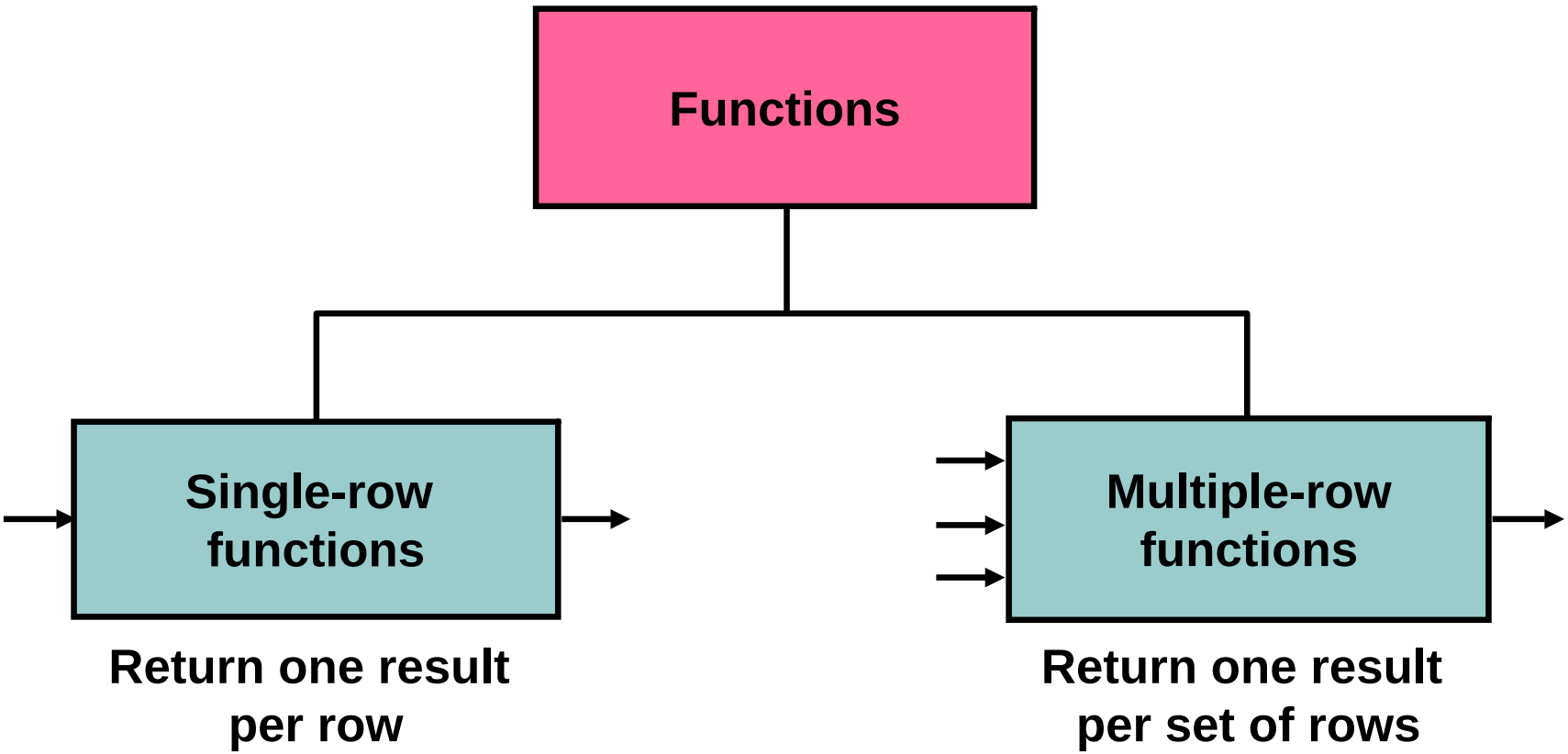
- Sort retrieved rows with the `ORDER BY` clause:
  - `ASC`: Ascending order, default
  - `DESC`: Descending order
- The `ORDER BY` clause comes last in the `SELECT` statement:

```
SELECT   last_name, job_id, department_id, hire_date
FROM     employees
ORDER BY hire_date ;
```

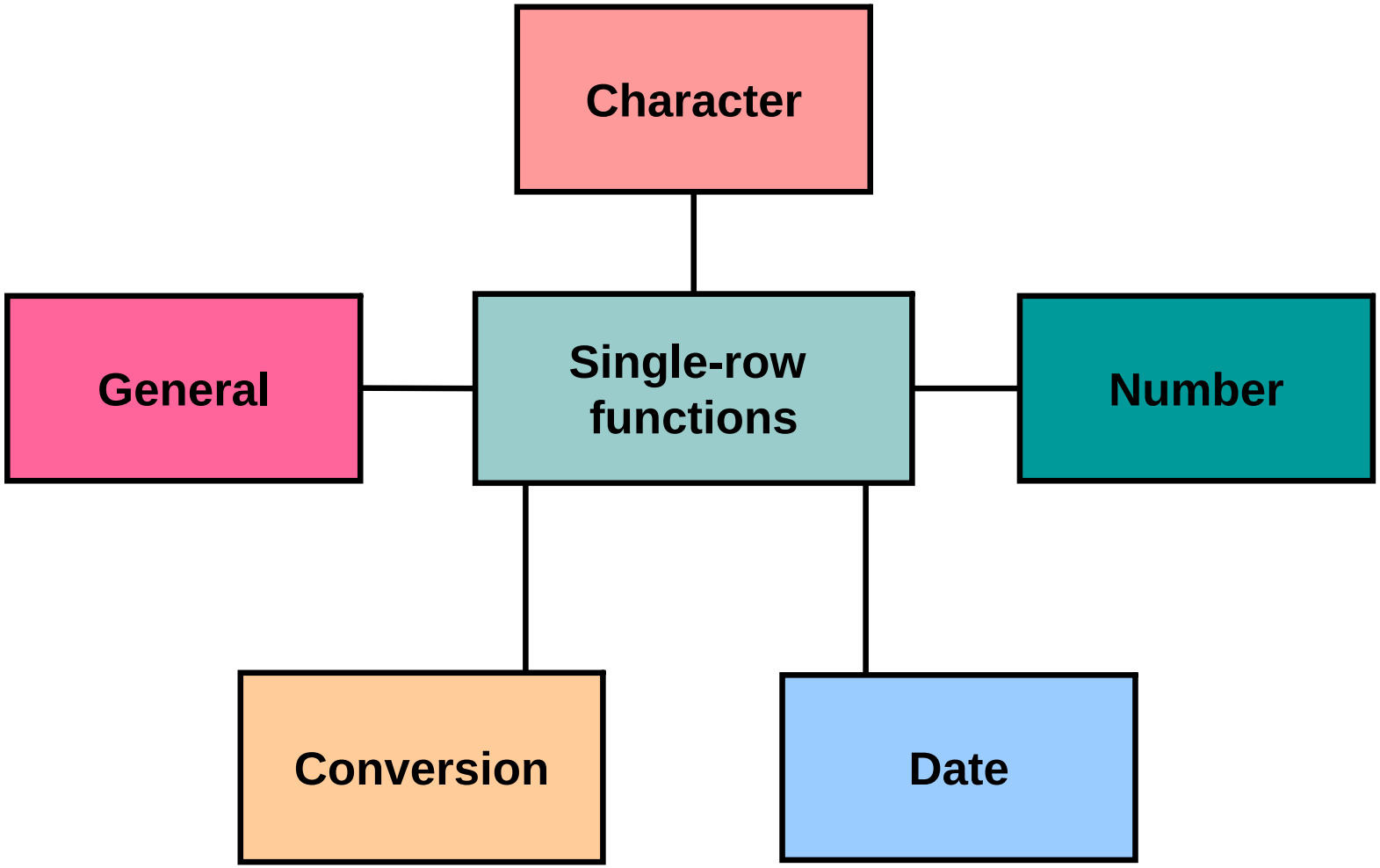
| | LAST_NAME | JOB_ID | DEPARTMENT_ID | HIRE_DATE |
|---|---|---|---|---|
| 1 | King | AD_PRES | 90 | 17-JUN-87 |
| 2 | Whalen | AD_ASST | 10 | 17-SEP-87 |
| 3 | Kochhar | AD_VP | 90 | 21-SEP-89 |
| 4 | Hunold | IT_PROG | 60 | 03-JAN-90 |
| 5 | Ernst | IT_PROG | 60 | 21-MAY-91 |
| 6 | De Haan | AD_VP | 90 | 13-JAN-93 |

...

# Review of SQL Functions

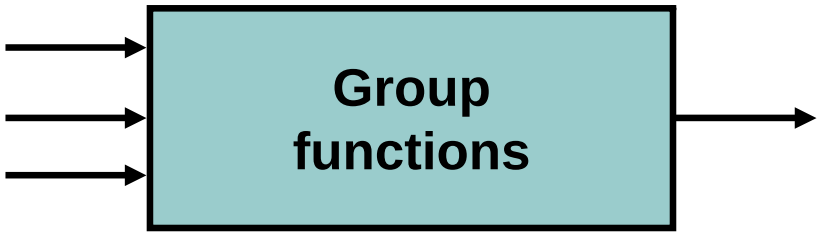


# Review of Single-Row Functions



# Review of Types of Group Functions

- AVG
- COUNT
- MAX
- MIN
- STDDEV
- SUM
- VARIANCE



# Review of Using Subqueries

- A subquery is a `SELECT` statement nested in a clause of another `SELECT` statement.
- Syntax:

```
SELECT select_list
FROM   table
WHERE  expr operator
                    (SELECT select_list
                     FROM   table  );
```

- Types of subqueries:

| Single-row subquery | Multiple-row subquery |
|---|---|
| Returns only one row | Returns more than one row |
| Uses single-row comparison operators | Uses multiple-row comparison operators |

# Review of Manipulating Data

A data manipulation language (DML) statement is executed when you:

- Add new rows to a table
- Modify existing rows in a table
- Remove existing rows from a table

| Function | Description |
|---|---|
| INSERT | Adds a new row to the table |
| UPDATE | Modifies existing rows in the table |
| DELETE | Removes existing rows from the table |
| MERGE | Updates, inserts, or deletes a row conditionally into/from a table |

# Lesson Agenda

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# Oracle Database 11*g* SQL Documentation

- *Oracle Database New Features Guide 11g Release 2 (11.2)*
- *Oracle Database Reference 11g Release 2 (11.2)*
- *Oracle Database SQL Language Reference 11g Release 2 (11.2)*
- *Oracle Database Concepts 11g Release 2 (11.2)*
- *Oracle Database SQL Developer User's Guide Release 1.2*

# Additional Resources

For additional information about the new Oracle 11*g* SQL, refer to the following:

- *Oracle Database 11g: New Features eStudies*
- *Oracle by Example series (OBE): Oracle Database 11g*

# Summary

In this lesson, you should have learned the following:

- The course objectives
- The sample tables used in the course

# Practice I: Overview

This practice covers the following topics:

- Running the SQL Developer online tutorial
- Starting SQL Developer and creating a new database connection and browsing the tables
- Executing SQL statements using the SQL Worksheet
- Reviewing the basic concepts of SQL