



# Module 3

## Relational Data Model and CREATE TABLE Statement

### Lesson 3: Basics of the SQL CREATE TABLE Statement



# Lesson Objectives

- Write CREATE TABLE statements with column specifications including data types
- Read CREATE TABLE statements to see columns and associated data types



# CREATE TABLE Syntax

- CREATE TABLE <table-name> ( <column-list> [<constraint-list>] )
- Column list with data types and optional and inline constraints
- Optional external constraint list
  - CONSTRAINT [ ConstraintName ] <Constraint-Spec>
  - Primary key
  - Foreign key
  - Unique
  - Check



# CREATE TABLE Statement Example

```
CREATE TABLE Student
( StdNo           CHAR(11) ,
  StdFirstName    VARCHAR(50) ,
  StdLastName     VARCHAR(50) ,
  StdCity         VARCHAR(50) ,
  StdState        CHAR(2) ,
  StdZip          CHAR(10) ,
  StdMajor        CHAR(6) ,
  StdClass        CHAR(6) ,
  StdGPA          DECIMAL(3,2)      ) ;
```



# Common SQL Data Types

- CHAR(L)
- VARCHAR(L)
- INTEGER
- FLOAT(P)
- DECIMAL(W, R)
- Date/Time: DATE, TIME, TIMESTAMP
- BOOLEAN



# Summary

- Important definitional statement
- Data types not always portable
- Somewhat tedious specification although relatively portable
- Other interfaces for more productivity



# Missing Comma Example

```
CREATE TABLE Student
( StdNo          CHAR(11),
  StdFirstName   VARCHAR(50),
  StdLastName    VARCHAR(50),
  StdCity        VARCHAR(50),
  StdState       CHAR(2),
  StdZip         CHAR(10),
  StdMajor       CHAR(6),
  StdClass       CHAR(6)
  StdGPA         DECIMAL(3,2)      ) ;
```

