**CHAPTER 3** Those SQL commands used to create or modify database objects (including tables) are called a. DDL commands. What SQL command is used to create a new table?a. CREATE TABLE Which of the following statements is true? (Multiple answers)SQL statements can be written in one or more lines.Tabs and indents can be used to enhance readability.A table name can contain underscore (\_) and number sign (#)Which of the following statements is NOT TRUE regarding defining columns in a table?A datatype must be specified for each column except for the 'date' type of data. Which of the following is a valid table or column name? (Multiple answers) department, dept\_USA, product#,SYSDATE908Which column is referred to as a virtual column?Amearn because it is based on information from other columns If **character** data stored in a column is not a consistent length, the b. VARCHAR2 datatype is recommended to be used to save storage space. The a. CHAR data type should be used only when the length of values stored in the column is consistent (i.e., fixed). Which data type is more suitable for *dept\_no* in the *dept* table if the values of dept\_no consist of both letters and numbers, such as d001 and d002 (dept\_no is a fixed length column)? CHAR Which of the following datatypes is specified correctly to store a numeric value up to 999.99? NUMBER(5,2) **DEBUGGING** Identify the errors of the following SQL statements and explain how you should fix them. CREATE TABLE orders (order# NUMBER(4), customer# NUMBER(4), orderdate DATE NOT NULL), Define the datatype first promiseddate DATE); Don’t specify the column size for date CREATE TABLE reports911 You can’t start the table name with anything but a letter(id# CHAR(5), Column names cannot start with anything but a letter report\_name VARCHAR2(10),report\_date DATE, Date does not need any datatype after it recorder VARCHAR(20) NOT NULL); Datatype was missing CREATE TABLE manager(id CHAR(4), first VARCHAR2(12) NOT NULL, last VARCHAR2(12) NOT NULL, hiredate DATE DEFAULT SYSDATE, SYSDATE does not need quotes around it salary NUMBER(8,2),commission NUMBER(7,2) DEFAULT 0, No equal sign after default annual\_earn AS (salary\*12+commission) IS needs to be AS Region CHAR(2) DEFAULT ‘W’); Single quotes around the region character CREATE TABLE table1(col1 CHAR(10) PRIMARY KEY,col2 NUMBER(2),col3 NUMBER(2),col4 AS (col2+col3));Parentheses need to be around the equation CREATE TABLE table1(col1 CHAR(10) PRIMARY KEY,col2 NUMBER(2),col3 NUMBER(2),col4 AS (col2+col3)); Virtual columns do not define a datatype **CHAPTER 4** Constraints are rules used to enforce special business rules, practices, and policies for the purpose of enforcing data integrity (e.g. entity integrity and referential integrity). In a 1:M relationship, which side of the tables should the Foreign Key constraint be added to?b. many-side (child) table How is the PRIMARY KEY constraint different from the UNIQUE constraint? Unique may contain nulls while the primary key cannot be null The table-level approach can be used to create any constraint type except c. NOT NULL Which of the following statements is TRUE? c. The CONSTRAINT keyword is not necessary if we don’t want to give the constraint a specific name but let Oracle generate one for us. For referential integrity to hold, any field in the child table that is declared a foreign key can contain only values (i.e., a matching value) from a parent table's primary key. b. Entity integrity concerns the concept of a primary key. In a one-to-many relationship, which side of the tables should the FOREIGN KEY constraint be added to enforce referential integrity? b. the many-side entity (or called CHILD entity). There is a 1:M relationship between MANUFACTURERS and PRODUCTS. If you need to add a new product made by a new manufacturer, then you must add a corresponding manufacturing record first before adding the product record. a. True a. Referential integrity enforces and verifies the consistency and data integrity between coupled tables by checking the consistency of the PK and corresponding FK in terms of values, data types and other field properties. A a. REFERENCES constraint is also called a referential integrity constraint. The column or columns chosen to be the primary key should be a. unique and not null. Which of the following statements is TRUE regarding foreign keys and foreign key constraints? c. Multiple foreign key constraints should be defined in one table if the table has many associated parent tables. Which of the following constraints is defined as a table-level constraint? PRIMARY KEY (customer\_id) ); Which of the following FK constraints is defined at the **column-level** constraints?a. *CREATE TABLE orders ( order\_id char(8) PRIMARY KEY,orderdate DATE NOT NULL, customer\_id char(5) CONSTRAINT orders\_fk REFERENCES customers(customer\_id));* Which of the following FK constraints is correctly defined at the **column-level** constraints? (2 answers) *CREATE TABLE orders ( order\_id char(8) PRIMARY KEY,* *orderdate DATE NOT NULL, customer\_id char(5) CONSTRAINT orders\_fk REFERENCES customers(customer\_id));CREATE TABLE orders ( order\_id char(8) PRIMARY KEY,* *orderdate DATE NOT NULL, customer\_id char(5) REFERENCES customers(customer\_id));* A b. composite primary key is used for the bookauthor table.(1) How do you define the PK for authorbook? a. PRIMARY KEY(isbn, authorid) (2) How do you define the first FK for authorbook? a. FOREIGN KEY (isbn) REFERENCES books Which of the following is syntactically correct in defining a foreign key constraint?b. CREATE TABLE employee (employee\_id NUMBER(4), last\_name VARCHAR2(10), department\_id NUMBER(4), CONSTRAINT fk\_deptno FOREIGN KEY (department\_id) REFERENCES departments(department\_id)); **DEBUGGING**The following SQL statements are of syntactic errors. What’s wrong with it? How should they be fixed? CREATE TABLE departments (deptid NUMBER(2) ~~dept\_deptid\_pk~~ PRIMARY KEY, dname VARCHAR(20) ~~CONSTRAIN~~ NOT NULL, fax VARCHAR2(12)); CREATE TABLE employees ( id number(5) ~~CONSTRAINTS~~ PRIMARY KEY, emp\_name char(20), location char(10) ); CREATE TABLE departments(deptid NUMBER(2) CONSTRAINT dept\_deptid\_pk PRIMARY KEY, dname VARCHAR2(20) CONSTRAINT dept\_dname\_nn NOT NULL~~,~~ CONSTRAINT dept\_dname\_uk UNIQUE);CREATE TABLE departments(deptid NUMBER(2) PRIMARY KEY, dname VARCHAR2(20) UNIQUE, NOT NULL);CREATE TABLE customers (customerid NUMBER(10) PRIMARY KEY, lastname VARCHAR2(50) NOT NULL, firstname VARCHAR2(50),~~CONSTRAINT lastname\_nn NOT NULL(lastname);~~CREATE TABLE orders ( order# NUMBER (10) PRIMARY KEY, orderdate DATE, shipdate DATE, CHECK(shipdate>orderdate));CREATE TABLE dept\_20(employee\_id NUMBER(4) PRIMARY KEY, last\_name VARCHAR2(10), job\_id VARCHAR2(9), salary NUMBER(7,2),commission\_pct NUMBER(7,2), CHECK (salary\*commission\_pct <= 5000), department\_id NUMBER(2));CREATE TABLE customers ( customerid number(10), customername varchar2(50) NOT NULL, address varchar2(50), city varchar2(50), state varchar2(10), zipcode varchar2(10), CONSTRAINT customers\_customerid\_pk PRIMARY KEY(customerid));CREATE TABLE orders (order# NUMBER (10), orderdate DATE,shipdate DATE,CONSTRAINT orders\_orderno\_pk PRIMARY KEY(orderno);CREATE TABLE employee (empid number(5) CONSTRAINT emp\_id\_pk PRIMARY KEY(~~empid),~~ name char(20),salary number(10),location char(10));CREATE TABLE emp (employee\_id NUMBER(4), last\_name VARCHAR2(10), deptno NUMBER(4) CONSTRAINT deptno\_fk REFERENCES dept(deptno),hire\_date DATE, salary NUMBER(7,2));CREATE TABLE departments(deptid NUMBER(2) CONSTRAINT dept\_deptid\_pk PRIMARY KEY, dname VARCHAR2(20) CONSTRAINT dept\_dname\_nn NOT NULL, CONSTRAINT dept\_dname\_uk UNIQUE);CREATE TABLE departments (deptid NUMBER(2) PRIMARY KEY, dname VARCHAR2(20) NOT NULL, UNIQUE); CREATE TABLE divisions (div\_no NUMBER(2), office VARCHAR2(10) CONSTRAINT check\_office CHECK office IN ('DALLAS','BOSTON','PARIS','TOKYO') ); CREATE TABLE divisions (div\_no NUMBER(2),office VARCHAR2(10) CONSTRAINT check\_office CHECK (office IN ('DALLAS','BOSTON','PARIS','TOKYO'))); CREATE TABLE Customers55(Customer# NUMBER(4) PRIMARY KEY,SSN CHAR(9) UNIQUE~~(SSN),~~LastName VARCHAR2(10) NOT NULL,FirstName VARCHAR2(10) NOT NULL);CREATE TABLE Customers55(Customer# NUMBER(4) PRIMARY KEY,SSN CHAR(9),LastName VARCHAR2(10) NOT NULL,FirstName VARCHAR2(10) NOT NULL,CONSTRAINT customers\_ssn\_uk UNIQUE(SSN));**CHAPTER 5** Commands that modify (i.e., insert, update, and delete) data are called **data manipulation language (DML)** commands. When inserting new data to a table, all the numeric data (NUMBER) and dates (DATE) should not be enclosed in single quotes. Single quotes are necessary for the character type of data, such as CHAR or VARCHAR2. a. TrueIf the data entered in the VALUES clause contains a value for every column and is in the same order as columns in the table, column names can be omitted in the INSERT INTO clause.a. True 39. If you enter data for only some columns, or if columns are listed in a different order than they’re listed in the table, the column names must be provided in the INSERT INTO clause in the same order as they’re given in the VALUES clause. a. True Assume that the data of region for Mandy Lopez is not available. Which of the following is an accurate code to insert a null value?*c. INSERT INTO acctmanager (id, name, emp\_hire\_date, salary, commission, region) VALUES (‘L500’, ’MANDY’, ’LOPES’, ‘01-OCT-09’, 47000, 1500, NULL);d. INSERT INTO managers (empid, firstname, lastname, hiredate, salary, commission, region) VALUES ('L500', 'DIANE','LOPES', '01-OCT-09', 8700, 1500, '');e. INSERT INTO managers (empid, firstname, lastname, hiredate, salary, commission) VALUES ('L500', 'DIANE', 'LOPES, '01-OCT-09', 8700, 1500);*The annual\_pay column is referred to as a b. virtual or computed/calculated Which of the following is/are an accurate INSERT INTO code to deal with a virtual column? (multipleanswers) c. INSERT INTO employees (empid, firstname, lastname, hiredate, salary, commission, region) VALUES ('E500', 'LISA', 'JAMES', '01-OCT-15', 8750, 1000, 'NE'); Determine which of the following INSERT INTO statements is NOT syntactically correct?b. INSERT INTO CUSTOMERS VALUES (1051, 1000, 'NE' ); Determine which of the following INSERT INTO statements is NOT syntactically correct when dealing with an apostrophe in a character string?b. INSERT INTO airports (id, airport\_name, location) VALUES ('A100', 'O''hare', 'Chicago');