Chapter 2

An Introduction to SQL

Solutions

Answers to Review Questions

1. A relation is a two-dimensional table in which the entries in the table are single-valued (each location in the table contains a single entry), each column has a distinct name (or attribute name), all values in a column are values of the same attribute, the order of the rows and columns is immaterial, and each row contains unique values.

2. A relational database is a collection of relations.

3. Rows in a relation are also called records or tuples. Columns are also called fields or attributes.

4. Use the CREATE TABLE command to create a table by typing the table name and then listing, in parentheses, the columns in the table.

5. The primary key of a table is the column, or collection of columns, that uniquely identifies a given row in the table. You usually identify primary keys by underlining the column name(s).

6. Use the DROP TABLE command.

7. The available data types are INTEGER, SMALLINT, DECIMAL, CHAR, and DATE.

8. A null data value (or null) is a special value that is used when the actual value for a column is unknown or unavailable. Use the NOT NULL clause to identify columns that cannot accept null values.

9. Use the INSERT command.

10. Use the SELECT command.

11. Use the UPDATE command.

12. Use the DELETE command.

13. You can use the DESCRIBE command to display or print the layout of a table in SQL*Plus or SQL*Plus Worksheet. You can use the SHOW COLUMNS command in MySQL to display or print the layout. You can use the Documenter in Access to display or print the layout.

Exercise Note 1: In Access, students could create the tables and add data using Design view and Datasheet windows. They also could do the assignment in SQL view using the commands given in this chapter.

Exercise Note 2: The various CREATE TABLE and INSERT commands are included in the script files on the data disk. Because these exercises can require a large amount of coding, you may want the students to create one table and add a few records. This gives students an understanding of the process. Then, use the use the appropriate script to drop the tables in the database. Finally, use the appropriate script to add all the tables and data. This also ensures that students have the correct descriptions and data for future exercises.
Answers to Premiere Products Exercises

1. Use the CREATE TABLE commands in Figures 2.3, 2.29, 2.31, 2.33, and 2.35.

2.

```
INSERT INTO REP
VALUES
('20', 'Kaiser', 'Valerie', '624 Randall', 'Grove', 'FL', '33321', 20542.50, 0.05);
INSERT INTO REP
VALUES
('35', 'Hull', 'Richard', '532 Jackson', 'Sheldon', 'FL', '33553', 39216.00, 0.07);
INSERT INTO REP
VALUES
('65', 'Perez', 'Juan', '1626 Taylor', 'Fillmore', 'FL', '33336', 23487.00, 0.05);
```

3.

```
INSERT INTO CUSTOMER
VALUES
('148', 'Al''s Appliance and Sport', '2837 Greenway', 'Fillmore', 'FL', '33321', 6550.00, 7500.00, '20');</nINSERT INTO CUSTOMER
VALUES
('282', 'Brookings Direct', '3827 Devon', 'Grove', 'FL', '33321', 431.50, 10000.00, '35');</nINSERT INTO CUSTOMER
VALUES
('356', 'Ferguson''s', '382 Wildwood', 'Northfield', 'FL', '33146', 5785.00, 7500.00, '65');</nINSERT INTO CUSTOMER
VALUES
('408', 'The Everything Shop', '1828 Raven', 'Crystal', 'FL', '33503', 5285.25, 5000.00, '35');</nINSERT INTO CUSTOMER
VALUES
('462', 'Bargains Galore', '3829 Central', 'Grove', 'FL', '33321', 3412.00, 10000.00, '65');</nINSERT INTO CUSTOMER
VALUES
('524', 'Kline''s', '838 Ridgeland', 'Fillmore', 'FL', '33336', 12762.00, 15000.00, '20');</nINSERT INTO CUSTOMER
VALUES
('608', 'Johnson''s Department Store', '372 Oxford', 'Sheldon', 'FL', '33553', 2106.00, 10000.00, '65');</nINSERT INTO CUSTOMER
VALUES
('687', 'Lee''s Sport and Appliance', '282 Evergreen', 'Altonville', 'FL', '33553', 2851.00, 5000.00, '35');</nINSERT INTO CUSTOMER
VALUES
('725', 'Deerfield''s Four Seasons', '282 Columbia', 'Sheldon', 'FL', '33336', 248.00, 7500.00, '35');</nINSERT INTO CUSTOMER
VALUES
('842', 'All Season', '28 Lakeview', 'Grove', 'FL', '33321', 8221.00, 7500.00, '20');</n```

4.

```
INSERT INTO ORDERS
VALUES
('21608', '20-OCT-2007', '148');</nINSERT INTO ORDERS
VALUES
('21608', '20-OCT-2007', '148');</nINSERT INTO ORDERS
VALUES
('21610', '20-OCT-2007', '356');</n```
VALUES ('21613', '21-OCT-2007', '408');
INSERT INTO ORDERS VALUES ('21614', '21-OCT-2007', '282');
INSERT INTO ORDERS VALUES ('21617', '23-OCT-2007', '608');
INSERT INTO ORDERS VALUES ('21619', '23-OCT-2007', '148');
INSERT INTO ORDERS VALUES ('21623', '23-OCT-2007', '608');

5.

INSERT INTO PART VALUES ('AT94', 'Iron', 50, 'HW', '3', 24.95);
INSERT INTO PART VALUES ('BV06', 'Home Gym', 45, 'SG', '2', 794.95);
INSERT INTO PART VALUES ('CD52', 'Microwave Oven', 32, 'AP', '1', 165.00);
INSERT INTO PART VALUES ('DL71', 'Cordless Drill', 21, 'HW', '3', 129.95);
INSERT INTO PART VALUES ('DR93', 'Gas Range', 8, 'AP', '2', 495.00);
INSERT INTO PART VALUES ('DW11', 'Washer', 12, 'AP', '3', 399.99);
INSERT INTO PART VALUES ('FD21', 'Stand Mixer', 22, 'HW', '3', 159.95);
INSERT INTO PART VALUES ('KL62', 'Dryer', 12, 'AP', '1', 349.95);
INSERT INTO PART VALUES ('KT03', 'Dishwasher', 8, 'AP', '3', 595.00);
INSERT INTO PART VALUES ('KV29', 'Treadmill', 9, 'SG', '2', 1390.00);

6.

INSERT INTO ORDER_LINE VALUES ('21608', 'AT94', 11, 21.95);
INSERT INTO ORDER_LINE VALUES ('21610', 'DR93', 1, 495.00);
INSERT INTO ORDER_LINE VALUES ('21610', 'DW11', 1, 399.99);
INSERT INTO ORDER_LINE VALUES ('21613', 'KL62', 4, 329.95);
INSERT INTO ORDER_LINE
VALUES
('21614', 'KT03', 2, 595.00);
INSERT INTO ORDER_LINE
VALUES
('21617', 'BV06', 2, 794.95);
INSERT INTO ORDER_LINE
VALUES
('21617', 'CD52', 4, 150.00);
INSERT INTO ORDER_LINE
VALUES
('21619', 'DR93', 1, 495.00);
INSERT INTO ORDER_LINE
VALUES
('21623', 'KV29', 2, 1290.00);

Answers to Henry Books Case

1.

CREATE TABLE AUTHOR
(AUTHOR_NUM DECIMAL(2,0),
AUTHOR_LAST CHAR(12),
AUTHOR_FIRST CHAR(10) ) ;
CREATE TABLE BOOK
(BOOK_CODE CHAR(4),
TITLE CHAR(40),
PUBLISHER_CODE CHAR(3),
TYPE CHAR(3),
PRICE DECIMAL(8,2),
PAPERBACK CHAR(1) ) ;
CREATE TABLE BRANCH
(BRANCH_NUM DECIMAL(2,0),
BRANCH_NAME CHAR(50),
BRANCH_LOCATION CHAR(50),
NUM_EMPLOYEES DECIMAL(2,0) ) ;
CREATE TABLE INVENTORY
(BOOK_CODE CHAR(4),
BRANCH_NUM DECIMAL(2,0),
ON_HAND DECIMAL(2,0) ) ;
CREATE TABLE PUBLISHER
(PUBLISHER_CODE CHAR(3),
PUBLISHER_NAME CHAR(25),
CITY CHAR(20) ) ;
CREATE TABLE WROTE
(BOOK_CODE CHAR(4),
AUTHOR_NUM DECIMAL(2,0),
SEQUENCE DECIMAL(2,0) ) ;

2.

INSERT INTO BRANCH
VALUES
(1, 'Henry Downtown', '16 Riverview', 10);
3.

```sql
INSERT INTO PUBLISHER
VALUES
('AH','Arkham House','Sauk City WI');
INSERT INTO PUBLISHER
VALUES
('AP','Arcade Publishing','New York');
INSERT INTO PUBLISHER
VALUES
('BA','Basic BOOKs','Boulder CO');
INSERT INTO PUBLISHER
VALUES
('BF','Berkley Publishing','Boston');
INSERT INTO PUBLISHER
VALUES
('BY','Back Bay BOOKs','New York');
INSERT INTO PUBLISHER
VALUES
('CT','Course Technology','Cambridge MA');
INSERT INTO PUBLISHER
VALUES
('FA','Fawcett BOOKs','New York');
INSERT INTO PUBLISHER
VALUES
('FS','Farrar Straus and Giroux','New York');
INSERT INTO PUBLISHER
VALUES
('HC','HarperCollins PUBLISHERs','New York');
INSERT INTO PUBLISHER
VALUES
('JP','Jove Publications','New York');
INSERT INTO PUBLISHER
VALUES
('JT','Jeremy P. Tarcher','Los Angeles');
INSERT INTO PUBLISHER
VALUES
('LB','Lb BOOKs','New York');
INSERT INTO PUBLISHER
VALUES
('MP','McPherson and Co.','Kingston');
INSERT INTO PUBLISHER
VALUES
('PE','Penguin USA','New York');
INSERT INTO PUBLISHER
VALUES
('PL','Plume','New York');
INSERT INTO PUBLISHER
VALUES
('PU','Putnam Publishing Group','New York');
INSERT INTO PUBLISHER
VALUES
('RH','Random House','New York');
```

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Solutions 2-5
4.

INSERT INTO AUTHOR
VALUES
(1,'Morrison','Toni');
INSERT INTO AUTHOR
VALUES
(2,'Solotaroff','Paul');
INSERT INTO AUTHOR
VALUES
(3,'Vintage','Vernor');
INSERT INTO AUTHOR
VALUES
(4,'Francis','Dick');
INSERT INTO AUTHOR
VALUES
(5,'Straub','Peter');
INSERT INTO AUTHOR
VALUES
(6,'King','Stephen');
INSERT INTO AUTHOR
VALUES
(7,'Pratt','Philip');
INSERT INTO AUTHOR
VALUES
(8,'Chase','Truddi');
INSERT INTO AUTHOR
VALUES
(9,'Collins','Bradley');
INSERT INTO AUTHOR
VALUES
(10,'Heller','Joseph');
INSERT INTO AUTHOR
VALUES
('SB','Schoken BOOKs','New York');
INSERT INTO PUBLISHER
VALUES
('SC','Scribner','New York');
INSERT INTO PUBLISHER
VALUES
('SS','Simon and Schuster','New York');
INSERT INTO PUBLISHER
VALUES
('ST','Scholastic Trade','New York');
INSERT INTO PUBLISHER
VALUES
('TA','Taunton Press','Newtown CT');
INSERT INTO PUBLISHER
VALUES
('TB','Tor BOOKs','New York');
INSERT INTO PUBLISHER
VALUES
('TH','Thames and Hudson','New York');
INSERT INTO PUBLISHER
VALUES
('TO','Touchstone BOOKs','Westport CT');
INSERT INTO PUBLISHER
VALUES
('VB','Vintage BOOKs','New York');
INSERT INTO PUBLISHER
VALUES
('WN','W.W. Norton','New York');
INSERT INTO PUBLISHER
VALUES
('WP','Westview Press','Boulder CO');
VALUES (11,'Wills','Gary');
INSERT INTO AUTHOR VALUES
(12,'Hofstadter','Douglas R.');
INSERT INTO AUTHOR VALUES
(13,'Lee','Harper');
INSERT INTO AUTHOR VALUES
(14,'Ambrose','Stephen E.');
INSERT INTO AUTHOR VALUES
(15,'Rowling','J.K.');
INSERT INTO AUTHOR VALUES
(16,'Salinger','J.D.');
INSERT INTO AUTHOR VALUES
(17,'Heaney','Seamus');
INSERT INTO AUTHOR VALUES
(18,'Camus','Albert');
INSERT INTO AUTHOR VALUES
(19,'Collins, Jr.','Bradley');
INSERT INTO AUTHOR VALUES
(20,'Steinbeck','John');
INSERT INTO AUTHOR VALUES
(21,'Castelman','Riva');
INSERT INTO AUTHOR VALUES
(22,'Owen','Barbara');
INSERT INTO AUTHOR VALUES
(23,'O''Rourke','Randy');
INSERT INTO AUTHOR VALUES
(24,'Kidder','Tracy');
INSERT INTO AUTHOR VALUES
(25,'Schleining','Lon');

5.

INSERT INTO BOOK VALUES ('0180','A Deepness in the Sky','TB','SFI',7.19,'Y');
INSERT INTO BOOK VALUES ('0189','Magic Terror','FA','HOR',7.99,'Y');
INSERT INTO BOOK VALUES ('0200','The Stranger','VB','FIC',8.00,'Y');
INSERT INTO BOOK VALUES ('0378','Venice','SS','ART',24.50,'N');
INSERT INTO BOOK VALUES ('079X','Second Wind','PU','MYS',24.95,'N');
INSERT INTO BOOK VALUES ('0808','The Edge','JP','MYS',6.99,'Y');
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INSERT INTO BOOK
VALUES ('1351', 'Dreamcatcher: A Novel', 'SC', 'HOR', 19.60, 'N');
INSERT INTO BOOK
VALUES ('1382', 'Treasure Chests', 'TA', 'ART', 24.46, 'N');
INSERT INTO BOOK
VALUES ('138X', 'Beloved', 'PL', 'FIC', 12.95, 'Y');
INSERT INTO BOOK
VALUES ('2226', 'Harry Potter and the Prisoner of Azkaban', 'ST', 'SFI', 13.96, 'N');
INSERT INTO BOOK
VALUES ('2281', 'Van Gogh and Gauguin', 'WP', 'ART', 21.00, 'N');
INSERT INTO BOOK
VALUES ('2766', 'Of Mice and Men', 'PE', 'FIC', 6.95, 'Y');
INSERT INTO BOOK
VALUES ('2908', 'Electric Light', 'FS', 'POE', 14.00, 'N');
INSERT INTO BOOK
INSERT INTO BOOK
VALUES ('3743', 'Nine Stories', 'LB', 'FIC', 5.99, 'Y');
INSERT INTO BOOK
VALUES ('3906', 'The Soul of a New Machine', 'BY', 'SCI', 11.16, 'Y');
INSERT INTO BOOK
VALUES ('5163', 'Travels with Charley', 'PE', 'TRA', 7.95, 'Y');
INSERT INTO BOOK
VALUES ('5790', 'Catch-22', 'SC', 'FIC', 12.00, 'Y');
INSERT INTO BOOK
VALUES ('6128', 'Jazz', 'PL', 'FIC', 12.95, 'Y');
INSERT INTO BOOK
VALUES ('6328', 'Band of Brothers', 'TO', 'HIS', 9.60, 'Y');
INSERT INTO BOOK
VALUES ('6908', 'Franny and Zooey', 'LB', 'FIC', 5.99, 'Y');
INSERT INTO BOOK
VALUES ('7405', 'East of Eden', 'PE', 'FIC', 12.95, 'Y');
INSERT INTO BOOK
VALUES ('7443', 'Harry Potter and the Goblet of Fire', 'ST', 'SFI', 18.16, 'N');
INSERT INTO BOOK
VALUES ('7559', 'The Fall', 'VB', 'FIC', 8.00, 'Y');
INSERT INTO BOOK
VALUES ('8092', 'Godel, Escher, Bach', 'BA', 'PHI', 14.00, 'Y');
INSERT INTO BOOK
VALUES ('8720', 'When Rabbit Howls', 'JP', 'PSY', 6.29, 'Y');
INSERT INTO BOOK
VALUES ('9611', 'Black House', 'RH', 'HOR', 18.81, 'N');
('9627', 'Song of Solomon', 'PL', 'FIC', 14.00, 'Y');
INSERT INTO BOOK
VALUES
('9701', 'The Grapes of Wrath', 'PE', 'FIC', 13.00, 'Y');
INSERT INTO BOOK
VALUES
INSERT INTO BOOK
VALUES
('9883', 'The Catcher in the Rye', 'LB', 'FIC', 5.99, 'Y');
INSERT INTO BOOK
VALUES
('9931', 'To Kill a Mockingbird', 'HC', 'FIC', 18.00, 'N');

6.

INSERT INTO WROTE
VALUES
('0180', 3, 1);
INSERT INTO WROTE
VALUES
('0189', 5, 1);
INSERT INTO WROTE
VALUES
('0200', 18, 1);
INSERT INTO WROTE
VALUES
('0378', 11, 1);
INSERT INTO WROTE
VALUES
('079X', 4, 1);
INSERT INTO WROTE
VALUES
('0808', 4, 1);
INSERT INTO WROTE
VALUES
('1351', 6, 1);
INSERT INTO WROTE
VALUES
('1382', 23, 2);
INSERT INTO WROTE
VALUES
('1382', 25, 1);
INSERT INTO WROTE
VALUES
('138X', 1, 1);
INSERT INTO WROTE
VALUES
('2226', 15, 1);
INSERT INTO WROTE
VALUES
('2281', 9, 2);
INSERT INTO WROTE
VALUES
('2281', 19, 1);
INSERT INTO WROTE
VALUES
('2766', 20, 1);
INSERT INTO WROTE
VALUES
('2908', 17, 1);
INSERT INTO WROTE
VALUES
('3350', 2, 1);
VALUES ('3743', 16, 1);
INSERT INTO WROTE
VALUES ('3906', 24, 1);
INSERT INTO WROTE
VALUES ('5163', 20, 1);
INSERT INTO WROTE
VALUES ('5790', 10, 1);
INSERT INTO WROTE
VALUES ('6128', 1, 1);
INSERT INTO WROTE
VALUES ('6328', 14, 1);
INSERT INTO WROTE
VALUES ('6689', 7, 1);
INSERT INTO WROTE
VALUES ('6908', 16, 1);
INSERT INTO WROTE
VALUES ('7405', 20, 1);
INSERT INTO WROTE
VALUES ('7443', 15, 1);
INSERT INTO WROTE
VALUES ('7559', 18, 1);
INSERT INTO WROTE
VALUES ('8092', 12, 1);
INSERT INTO WROTE
VALUES ('8720', 8, 1);
INSERT INTO WROTE
VALUES ('9611', 5, 2);
INSERT INTO WROTE
VALUES ('9611', 6, 1);
INSERT INTO WROTE
VALUES ('9627', 1, 1);
INSERT INTO WROTE
VALUES ('9701', 20, 1);
INSERT INTO WROTE
VALUES ('9882', 4, 1);
INSERT INTO WROTE
VALUES ('9883', 16, 1);
INSERT INTO WROTE
VALUES ('9931', 13, 1);

7.

INSERT INTO INVENTORY
VALUES ('0180', 1, 2);
INSERT INTO INVENTORY
VALUES ('0189',2,2);
INSERT INTO INVENTORY
VALUES ('0200',1,1);
INSERT INTO INVENTORY
VALUES ('0200',2,3);
INSERT INTO INVENTORY
VALUES ('0378',3,2);
INSERT INTO INVENTORY
VALUES ('079X',2,1);
INSERT INTO INVENTORY
VALUES ('079X',3,2);
INSERT INTO INVENTORY
VALUES ('079X',4,3);
INSERT INTO INVENTORY
VALUES ('0808',2,1);
INSERT INTO INVENTORY
VALUES ('1351',2,4);
INSERT INTO INVENTORY
VALUES ('1351',3,2);
INSERT INTO INVENTORY
VALUES ('1351',4,3);
INSERT INTO INVENTORY
VALUES ('1382',2,1);
INSERT INTO INVENTORY
VALUES ('138X',2,3);
INSERT INTO INVENTORY
VALUES ('2226',1,3);
INSERT INTO INVENTORY
VALUES ('2226',3,2);
INSERT INTO INVENTORY
VALUES ('2226',4,1);
INSERT INTO INVENTORY
VALUES ('2281',4,3);
INSERT INTO INVENTORY
VALUES ('2766',3,2);
INSERT INTO INVENTORY
VALUES ('2908',1,3);
INSERT INTO INVENTORY
VALUES ('2908',4,1);
INSERT INTO INVENTORY
VALUES ('3350',1,2);
INSERT INTO INVENTORY
VALUES ('3743',2,1);
INSERT INTO INVENTORY
VALUES ('3906',2,1);
(‘3906’,3,2);
INSERT INTO INVENTORY
VALUES
(‘5163’,1,1);
INSERT INTO INVENTORY
VALUES
(‘5790’,4,2);
INSERT INTO INVENTORY
VALUES
(‘6128’,2,4);
INSERT INTO INVENTORY
VALUES
(‘6128’,3,3);
INSERT INTO INVENTORY
VALUES
(‘6328’,2,2);
INSERT INTO INVENTORY
VALUES
(‘669X’,1,1);
INSERT INTO INVENTORY
VALUES
(‘6908’,2,2);
INSERT INTO INVENTORY
VALUES
(‘7405’,3,2);
INSERT INTO INVENTORY
VALUES
(‘7443’,4,1);
INSERT INTO INVENTORY
VALUES
(‘7599’,2,2);
INSERT INTO INVENTORY
VALUES
(‘8092’,3,1);
INSERT INTO INVENTORY
VALUES
(‘8720’,1,3);
INSERT INTO INVENTORY
VALUES
(‘9611’,1,2);
INSERT INTO INVENTORY
VALUES
(‘9627’,3,5);
INSERT INTO INVENTORY
VALUES
(‘9627’,4,2);
INSERT INTO INVENTORY
VALUES
(‘9701’,1,2);
INSERT INTO INVENTORY
VALUES
(‘9701’,2,1);
INSERT INTO INVENTORY
VALUES
(‘9701’,3,3);
INSERT INTO INVENTORY
VALUES
(‘9701’,4,2);
INSERT INTO INVENTORY
VALUES
(‘9882’,3,3);
INSERT INTO INVENTORY
VALUES
(‘9883’,2,3);
INSERT INTO INVENTORY
VALUES
(‘9883’,4,2);
INSERT INTO INVENTORY
VALUES ('9931',1,2);

Answers to Alexamara Marina Group Exercise

1.

CREATE TABLE MARINA
(MARINA_NUM CHAR(4) PRIMARY KEY,
NAME CHAR(20),
ADDRESS CHAR(15),
CITY CHAR(15),
STATE CHAR(2),
ZIP CHAR(5) )
;
CREATE TABLE MARINA_SLIP
(SLIP_ID DECIMAL(4,0) PRIMARY KEY,
MARINA_NUM CHAR(4),
SLIP_NUM CHAR(4),
LENGTH DECIMAL(4,0),
RENTAL_FEE DECIMAL(8,2),
BOAT_NAME CHAR(50),
BOAT_TYPE CHAR(50),
OWNER_NUM CHAR(4) )
;
CREATE TABLE OWNER
(OWNER_NUM CHAR(4) PRIMARY KEY,
LAST_NAME CHAR(50),
FIRST_NAME CHAR(20),
ADDRESS CHAR(15),
CITY CHAR(15),
STATE CHAR(2),
ZIP CHAR(5) )
;
CREATE TABLE SERVICE_CATEGORY
(CATEGORY_NUM DECIMAL(4,0) PRIMARY KEY,
CATEGORY_DESCRIPTION CHAR(255) )
;
CREATE TABLE SERVICE_REQUEST
(SERVICE_ID DECIMAL(4,0) PRIMARY KEY,
SLIP_ID DECIMAL(4,0),
CATEGORY_NUM DECIMAL(4,0),
DESCRIPTION CHAR(255),
MONTH CHAR(255),
EST_HOURS DECIMAL(4,2),
SPENT_HOURS DECIMAL(4,2),
NEXT_SERVICE_DATE DATE )
;

2.

INSERT INTO MARINA
VALUES ('1','Alexamara East','108 2nd Ave.','','Brinman','FL','32273');
INSERT INTO MARINA
VALUES ('2','Alexamara Central','283 Branston','','W. Brinman','FL','32274');
3.

```
INSERT INTO OWNER
VALUES
('AD57','Adney','Bruce and Jean','208 Citrus','Bowton','FL','31313');
INSERT INTO OWNER
VALUES
('AN75','Anderson','Bill','18 Wilcox','Glander Bay','FL','31044');
INSERT INTO OWNER
VALUES
('BL72','Blake','Mary','2672 Commodore','Bowton','FL','31313');
INSERT INTO OWNER
VALUES
('EL25','Elend','Sandy and Bill','462 Riverside','Rivard','FL','31062');
INSERT INTO OWNER
VALUES
('FE82','Feenstra','Daniel','7822 Coventry','Kaleva','FL','32521');
INSERT INTO OWNER
VALUES
('JU92','Juarez','Maria','8922 Oak','Rivard','FL','31062');
INSERT INTO OWNER
VALUES
('KE22','Kelly','Alyssa','5271 Waters','Bowton','FL','31313');
INSERT INTO OWNER
VALUES
('NO27','Norton','Peter','2811 Lakewood','Lewiston','FL','32765');
INSERT INTO OWNER
VALUES
('SM72','Smeltz','Becky and Dave','922 Garland','Glander Bay','FL','31044');
INSERT INTO OWNER
VALUES
('TR72','Trent','Ashton','922 Crest','Bay Shores','FL','30992');
```

4.

```
INSERT INTO MARINA_SLIP
VALUES
(1,'1','A1',40,3800.00,'Anderson II','Sprite 4000','AN75');
INSERT INTO MARINA_SLIP
VALUES
(2,'1','A2',40,3800.00,'Our Toy','Ray 4025','EL25');
INSERT INTO MARINA_SLIP
VALUES
(3,'1','A3',40,3600.00,'Escape','Sprite 4000','KE22');
INSERT INTO MARINA_SLIP
VALUES
(4,'1','B1',30,2400.00,'Gypsy','Dolphin 28','JU92');
INSERT INTO MARINA_SLIP
VALUES
(5,'2','B2',30,2600.00,'Anderson III','Sprite 3000','AN75');
INSERT INTO MARINA_SLIP
VALUES
(6,'2','B3',25,1800.00,'Bravo','Dolphin 25','AD57');
INSERT INTO MARINA_SLIP
VALUES
(7,'2','B4',25,1800.00,'Chinook','Dolphin 22','FE82');
INSERT INTO MARINA_SLIP
VALUES
(8,'2','B5',25,2000.00,'Listy','Dolphin 25','SM72');
INSERT INTO MARINA_SLIP
VALUES
(9,'2','B6',30,2500.00,'Mermaid','Dolphin 28','BL72');
INSERT INTO MARINA_SLIP
VALUES
(10,'2','B7',50,4200.00,'Axxon II','Dolphin 40','NO27');
```
5.

INSERT INTO SERVICE_CATEGORY
VALUES
(1,'Routine engine maintenance');
INSERT INTO SERVICE_CATEGORY
VALUES
(2,'Engine repair');
INSERT INTO SERVICE_CATEGORY
VALUES
(3,'Air conditioning');
INSERT INTO SERVICE_CATEGORY
VALUES
(4,'Electrical systems');
INSERT INTO SERVICE_CATEGORY
VALUES
(5,'Fiberglass repair');
INSERT INTO SERVICE_CATEGORY
VALUES
(6,'Canvas installation');
INSERT INTO SERVICE_CATEGORY
VALUES
(7,'Canvas repair');
INSERT INTO SERVICE_CATEGORY
VALUES
(8,'Electronic systems (radar, GPS, autopilots, etc.)');

6. The following commands use the hint given in the text for handling null service dates:

INSERT INTO SERVICE_REQUEST
VALUES
(1,1,3,'Air conditioner periodically stops with code indicating low coolant level. Diagnose and repair.','Technician has verified the problem. Air conditioning specialist has been called.','4','2','12-JUL-2007');
INSERT INTO SERVICE_REQUEST
VALUES
(2,5,4,'Fuse on port motor blown on two occasions. Diagnose and repair.','Open','2','0','12-JUL-2007');
INSERT INTO SERVICE_REQUEST
VALUES
(3,4,1,'Oil change and general routine maintenance (check fluid levels, clean sea strainers etc.).','Service call has been scheduled.','1','0','16-JUL-2007');
INSERT INTO SERVICE_REQUEST
VALUES
(4,1,2,'Engine oil level has been dropping drastically. Diagnose and repair.','Open','2','0','13-JUL-2007');
INSERT INTO SERVICE_REQUEST
VALUES
(5,3,5,'Open pockets at base of two stantions.','Technician has completed the initial filling of the open pockets. Will complete the job after the initial fill has had sufficient time to dry.','4','2','13-JUL-2007');
INSERT INTO SERVICE_REQUEST
VALUES
(6,11,4,'Electric-flush system periodically stops functioning. Diagnose and repair.','Open','3','0','31-DEC-2010');
INSERT INTO SERVICE_REQUEST
VALUES
(7,6,2,'Engine overheating. Loss of coolant. Diagnose and repair.','Open','2','0','13-JUL-2007');
VALUES (8,6,2,'Heat exchanger not operating correctly.','Technician has determined that the exchanger is faulty. New exchanger has been ordered.','4','1','17-JUL-2007');
INSERT INTO SERVICE_REQUEST
VALUES (9,7,6,'Canvas severely damaged in windstorm. Order and install new canvas.','Open','8','0','16-JUL-2007');
INSERT INTO SERVICE_REQUEST
VALUES (10,2,8,'Install new GPS and chart plotter','Scheduled','7','0','17-JUL-2007');
INSERT INTO SERVICE_REQUEST
VALUES (11,2,3,'Air conditioning unit shuts down with HHH showing on the control panel.','Technician not able to replicate the problem. Air conditioning unit ran fine through multiple tests. Owner to notify technician if the problem recurs.','1','1','31-DEC-2010');
INSERT INTO SERVICE_REQUEST
VALUES (12,4,8,'Both speed and depth readings on data unit are significantly less than the owner thinks they should be.','Technician has scheduled appointment with owner to attempt to verify the problem.','2','0','16-JUL-2007');
INSERT INTO SERVICE_REQUEST
VALUES (13,8,2,'Engine seems to be making clattering (customer description) noise.','Technician suspects problem with either propeller or shaft and has scheduled the boat to be pulled from the water for further investigation.','5','2','12-JUL-2007');
INSERT INTO SERVICE_REQUEST
VALUES (14,7,5,'Owner accident caused damage to forward portion of port side.','Technician has scheduled repair.','6','0','13-JUL-2007');
INSERT INTO SERVICE_REQUEST
VALUES (15,11,7,'Canvas leaks around zippers in heavy rain. Install overlap around zippers to prevent leaks.','Overlap has been created. Installation has been scheduled.','8','3','17-JUL-2007');
UPDATE SERVICE_REQUEST
SET NEXT_SERVICE_DATE = Null
WHERE NEXT_SERVICE_DATE = '31-DEC-2010';