

Self-Check Practice 3/27/2020 Python and Database

Part I

1. What does a relational database use to uniquely identify each row in a table?
 - a. indexes
 - b. foreign keys
 - c. non-primary keys
 - d. ☒ primary keys
2. What does a relational database use to relate the tables in a database to other tables?
 - a. ☒ indexes
 - b. foreign keys
 - c. non-primary keys
 - d. primary keys
3. Which of the following can a SELECT statement *not* do to the data in a table?
 - a. Get selected rows
 - b. Get selected columns
 - c. ☒ Sort the rows
 - d. Delete the rows
4. A join that returns records from related tables only if their related fields match is called
 - a. ☒ an outer join
 - b. an inner join
 - c. a cross join
 - d. a data join
5. The result set retrieved by the following SELECT statement contains rows that have
 - a. all of the columns from the accounts table
 - b. ☒ two of the rows from the account table
 - c. all of the columns from the accounts table where balance is less than 0
 - d. two of the columns from the accounts table where balance is less than 0

Code example

```
SELECT vendorName, invoiceNumber, invoiceDate, invoiceTotal
FROM vendors INNER JOIN invoices
    ON vendors.vendorID = invoices.vendorID
WHERE invoiceTotal >= 500
ORDER BY vendorName DESC
```

6. (Refer to code example) How many columns will the result set have?
 - a. ☒ 4
 - b. 5
 - c. 6
 - d. 7
7. (Refer to code example) What table(s) does the data in the result set come from?
 - a. vendors
 - b. invoices
 - c. ☒ vendors and invoices

8. (Refer to code example) If vendorName contains string data and invoiceTotal contains decimal values, how will the result set be ordered?
- a. ☒ alphabetically starting with A
 - b. ☐ alphabetically starting with Z
 - c. ☐ numerically starting with 0
 - d. ☐ numerically starting with 500
9. When you code a DELETE statement, you usually need to include
- a. ☒ a SORT BY clause
 - b. ☐ a WHERE clause
 - c. ☐ an inner join
 - d. ☐ an outer join
10. What type of SQL statement is used to assign user privileges in MySQL?
- a. ☐ GIVE
 - b. ☐ ASSIGN
 - c. ☒ GRANT
 - d. ☐ REVOKE

Part II

Given a database as the following (my_guitar_shop1.sql) on MySql database.

-- create and select the database

```
DROP DATABASE IF EXISTS my_guitar_shop1;
```

```
CREATE DATABASE my_guitar_shop1;
```

USE my_guitar_shop1; -- MySQL command

-- create the tables

```
CREATE TABLE categories (  
    categoryID INT(11) NOT NULL AUTO_INCREMENT,  
    categoryName VARCHAR(255) NOT NULL,  
    PRIMARY KEY (categoryID)  
);
```

```
CREATE TABLE products (  
    productID INT(11) NOT NULL AUTO_INCREMENT,  
    categoryID INT(11) NOT NULL,  
    productCode VARCHAR(10) NOT NULL UNIQUE,  
    productName VARCHAR(255) NOT NULL,  
    listPrice DECIMAL(10,2) NOT NULL,  
    PRIMARY KEY (productID)  
);
```

```
CREATE TABLE orders (  
    orderID INT(11) NOT NULL AUTO_INCREMENT,  
    customerID INT NOT NULL,  
    orderDate DATETIME NOT NULL,  
    PRIMARY KEY (orderID)  
);
```

-- insert data into the database

```
INSERT INTO categories VALUES
```

```
(1, 'Guitars'),
```

```
(2, 'Basses'),
```

```
(3, 'Drums');
```

```
INSERT INTO products VALUES
```

(1, 1, 'strat', 'Fender Stratocaster', '699.00'),
 (2, 1, 'les_paul', 'Gibson Les Paul', '1199.00'),
 (3, 1, 'sg', 'Gibson SG', '2517.00'),
 (4, 1, 'fg700s', 'Yamaha FG700S', '489.99'),
 (5, 1, 'washburn', 'Washburn D10S', '299.00'),
 (6, 1, 'rodriguez', 'Rodriguez Caballero 11', '415.00'),
 (7, 2, 'precision', 'Fender Precision', '799.99'),
 (8, 2, 'hofner', 'Hofner Icon', '499.99'),
 (9, 3, 'ludwig', 'Ludwig 5-piece Drum Set with Cymbals', '699.99'),
 (10, 3, 'tama', 'Tama 5-Piece Drum Set with Cymbals', '799.99');

1. Write a sql statement to receive the following table

productID	categoryID	productCode	productName	listPrice
4	1	fo700s	Yamaha FG700S	489.99
5	1	washburn	Washburn D10S	299.00
6	1	rodriguez	Rodriguez Caballero 11	415.00
7	2	precision	Fender Precision	799.99
8	2	hofner	Hofner Icon	499.99
9	3	ludwia	Ludwia 5-piece Drum Set with Cvmbals	699.99
10	3	tama	Tama 5-Piece Drum Set with Cvmbals	799.99

ANS:

```

1 • use my_guitar_shop1;
2 • SELECT * FROM products
3 • WHERE productID > 3

```

2. Write a SQL statement to generate the following table

productName	listPrice
Washburn D10S	299.00
Rodriguez Caballero 11	415.00
Yamaha FG700S	489.99
Hofner Icon	499.99

```

SELECT productName, listPrice
FROM product
WHERE listPrice < 500
ORDER BY listPrice ASC

```

3. What is the output of the following?

```

SELECT categoryName, productName, listPrice
FROM categories
  INNER JOIN products
    ON categories.categoryID = products.categoryID
WHERE listPrice > 800
ORDER BY listPrice ASC

```

```

categoryName  productName  listPrice
Guitars.      Gibson Les Paul. 1199
Guitars.      Gibson SG.      2517

```

Note: we don't have to give the ProductID because it is an auto_increment field

INSERT INTO products

(categoryID, productCode, productName, listPrice)

VALUES

(1, "tele", "Fender Telecaster", 599)

4. Write an insert SQL statement to insert one new record (id 11 below) like the following

productID	categoryID	productCode	productName	listPrice
1	1	strat	Fender Stratocaster	699.00
2	1	les paul	Gibson Les Paul	1199.00
3	1	sg	Gibson SG	2517.00
4	1	fg700s	Yamaha FG700S	489.99
5	1	washburn	Washburn D10S	299.00
6	1	rodriquez	Rodriquez Caballero 11	415.00
7	2	precision	Fender Precision	799.99
8	2	hofner	Hofner Icon	499.99
9	3	ludwig	Ludwig 5-piece Drum Set with Cymbals	699.99
10	3	tama	Tama 5-Piece Drum Set with Cymbals	799.99
11	1	tele	Fender Telecaster	599.00

5. Write an update SQL statement to modify the price of newly created record to 799.99.

ANS:

UPDATE products

SET listPrice = 799

WHERE productID = 11

6. Write a SQL statement to delete the record with productID 11 (the newly updated one)

DELETE FROM products

WHERE productID = 11;