For these questions, consider a database called **class** and a table called **students** with fields (columns) with **student\_id, first\_name, last\_name, email, password, class\_name, class\_section**.

1. Write a SQL query that will insert one record to the database. Make up the information in the record.

INSERT INTO `students` (`first\_name`, `last\_name`, `email`, `password`, `class\_name`, `class\_section`) VALUES ('Jennifer', 'Parkin', 'ayria@email.com', SHA1('badpassword123'), 'CIS 12', '43560');

1. Write a SQL query that will insert 3 records to the database. Make up the information in the record.

INSERT INTO `students` (`student\_id`, `first\_name`, `last\_name`, `email`, `password`, `class\_name`, `class\_section`) VALUES (NULL, 'Megan', 'James', 'purity@email.com', SHA1('badpassword'), 'CIS 12', '43560'), (NULL, 'Taylor', 'Otwell', 'laravel@email.com', SHA1('password321'), 'CIS 12', '43560'), (NULL, 'Dries', 'Vints', 'commit@email.com', SHA1('password123'), 'CIS 12', '43560')

1. Write a SQL query that will show all the columns in the database, but not any of the information in the database.

SHOW COLUMNS FROM `students`;

1. Write a SQL query that will display all the records in the database, along with the column names of the database.

SELECT \* FROM `students`;

1. Describe what SHA ( ) function does. Is it necessary to use CHAR datatype for the password column? Explain why or why not.

*SHA() creates a hashed version of the input (although a stronger hashing with salt algorithm is recommended, such as BCRYPT or ARGON2i). It is not strictly required to use the CHAR data type for a password column, but is strongly recommended, as this pads the string to be stored with additional characters which obscures the length of the original password and makes cracking the password more difficult.*

1. What is the difference in ordering your SQL query using ASC and DESC?

*ASC returns a query’s values in ascending order from A-Z and numerically from lowest to highest value, while DESC does exactly the opposite.*

1. Write a SQL query that displays the first five last names in the database in ascending order.

SELECT last\_name FROM `students` ORDER BY `student\_id` ASC LIMIT 5;

1. Write a SQL query that will delete the contents of the database, leaving the columns intact.

DELETE FROM `students`;

1. Write a SQL query that will delete the tables, and information in the tables, but leave the database intact.

DROP TABLE IF EXISTS `students`;

1. Write a SQL query that will delete the entire database: columns, tables, database, and all.

DROP DATABASE IF EXISTS `class`;

1. Write a SQL query (or queries) that will delete a single entry from the database.

DELETE FROM `students` WHERE `students`.`user\_id` = 3;