**Programming Exercise 04**

**Questions**

1. List the data types used for the columns in the table.  
     
   [***CREATE TABLE***](https://dev.mysql.com/doc/refman/8.0/en/create-table.html)[*customers*](https://organic-capybara-p47jrwgxxgvh9px9-8080.app.github.dev/?server=mysql-dev-container&username=root&db=CS445_PE04&table=customers) *(  
    Address* [***VARCHAR***](https://dev.mysql.com/doc/refman/8.0/en/string-type-syntax.html)*(100),  
    Zip* [***VARCHAR***](https://dev.mysql.com/doc/refman/8.0/en/string-type-syntax.html)*(10),  
    Name* [***VARCHAR***](https://dev.mysql.com/doc/refman/8.0/en/string-type-syntax.html)*(50),  
    State* [***CHAR***](https://dev.mysql.com/doc/refman/8.0/en/string-type-syntax.html)*(2),  
    City* [***VARCHAR***](https://dev.mysql.com/doc/refman/8.0/en/string-type-syntax.html)*(50)  
   );*  
     
   The column data types were chosen to match the kind of information being stored. I used **VARCHAR(100)** for the address since street names can vary a lot in length. For the ZIP code, I went with **VARCHAR(10)** instead of a number so we don’t lose any leading zeroes, which are common in some areas. I actually had to look this up, but I was surprised to learn that some zip codes do indeed start with 0. If I used **INT**, then the leading zero would be dropped and create an invaid zip code. The name is also a **VARCHAR(50)**, and the city uses the same type. The state is a **CHAR(2)** since it's always a two-letter abbreviation. I went with these choices help keep the data accurate and readable.
2. Explain the query that you used for this part:

“Return all customers that live in Ohio”  
  
To find all the customers living in Ohio, I wrote this SQL query:

**SELECT \* FROM customers WHERE State = 'OH';**

This tells the database to give me every row where the state is 'OH'. It's a straightforward way to filter the data so I only get the people located in Ohio. The asterisk means I want to see ALL the columns for those customers.

1. Explain the query that you used for this part:

“Change Jane Doe's Zip code to 12303”  
  
For this part, I updated Jane Doe’s ZIP code with this command:

**UPDATE customers SET Zip = '12303' WHERE Name = 'Jane Doe';**

This command finds Jane Doe in the table customers and then it updates her ZIP code. I kept the ZIP in quotes since it's stored as a string or (**VARCHAR**), which as I mentioned before, helps preserve any leading zeroes. The **WHERE** clause makes sure I only change Jane’s info, not anyone else’s by mistake.

**Snippets:**  
  
1-Return all rows and columns in the database (before any changes)

A screenshot of a computer

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2-Return all customers that live in Ohio  
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3-Return the Name and Address of customers that live in Westlake  
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4-Change Jane Doe's Zip code to 12303  
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5- Delete Jack hill from the table  
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6-Return all rows and columns in the database (after the changes above)  
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