

Goals:

Data types Int and decimal
String functions

0. Review in class code examples and the definitions in Class Objectives. Run the queries and think about the relationship between the query and the resultset.

1. Assigned Reading and research

- Read about some numeric data types, specifically , understand the differences between `Int` and `decimal`. The link below will reference some technical pages on these data types, reference these to help you write tests and answer the questions below.

<https://dev.mysql.com/doc/refman/5.7/en/numeric-types.html>

- Read about these string functions:
 - `Length`, `Substring`, `Upper`, `Concat`, `RTrim`

<https://dev.mysql.com/doc/refman/5.7/en/string-functions.html>

Just for fun <https://xkcd.com/303/>

Deliverable 1:

- **Question 1:** Are string data values in your database tables case sensitive? Try writing a unit test to PROVE your answer, use one of the tables in your database. Send your code and the resultset.
- **Question 2:** How do you write a select statement -with one of the functions you just read about- to return just the left 2 characters of the `Class.Code`? Send your code and the result set.
- **Question 3:** How do you write a select statement to return the `Class Code` and `MaximumStudents` columns, but choose only the rows from the `Class` table if there is a "C" anywhere in the `Code`? Send your code and the result set.
- **Question 4:** What happens when integer values are compared to a string? Write unit test queries to prove your answers using `SELECT` statements and address *each* of the following scenarios.
Hint: a very simple test can be written like this: `select (1.0 = '1') as test;`
 - **A.** What if the string contains only numbers?
 - **B.** What if the string contains a number followed by characters?
 - **C.** What if the string contains a character followed by numbers?
- **Question 5:** When can a decimal equal an integer? Write at least 2 test queries to check different scenarios before sending your answer and code.
 - What if the decimal type has no numbers after the decimal point?
 - What if the decimal type has some numbers after the decimal point?
- **Question 6:** What are the minimum and maximum values that a decimal (4,2) can hold?
- **Question 7:** Can a decimal (4,1) hold this value : 9.999? Why or why not?
- **Question 8:** The `WHERE` clause of a query chooses which of these: Rows or Columns?
- **Question 9:** The `SELECT` clause of a query chooses which of these: Rows or Columns?