Unit 02 Problem Set Submission Form

# Overview

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| Your Name | Rutwik Ghag |
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# Instructions

Put your name and SU email at the top. Answer these questions all from the lab. When asked to include screenshots, please follow the screen shot guidelines from the first lab.

Remember as you complete the problem sets it is not only about getting it right / correct. We will discuss the answers in class so it’s important to articulate anything you would like to contribute to the discussion in your answer:

* If you feel the question is vague, include any assumptions you've made.
* If you feel the answer requires interpretation or justification provide it.
* If you do not know the answer to the question, articulate what you tried and how you are stuck.

This how you receive credit for answering questions which might not be correct.

# Questions

1. Does a table consist of data or metadata? Explain.  
   Data is the set of items stored in a database to provide information about whatever the table is about. Metadata, on the other hand gives insights into the data, i.e., it is data about data. For example, a table about states of the United States can have data such as NY, NJ, CT, etc., but the column name state, lookup, the datatype of the column, the size of the datatype, etc. are all metadata. Therefore, a table consists of both data and metadata
2. Describe what happens when you attempt to insert 200 characters into a column with a data type of varchar (50)?

If we insert 200 characters into a column with a data type of varchar (50) then only the first 50 characters will be seen the rest of the characters will be truncated.

1. How do we enforce entity integrity over a table which uses a surrogate primary key?

We enforce entity integrity over a table which uses a surrogate primary key by having a natural key (unique key) like email address in the same table.

1. Provide a screenshot of your completed **customers** table include columns, indexes and foreign keys.

Graphical user interface, application

Description automatically generated

1. Implement the **contractors** table as defined in the overview section. Include columns, indexes (pk/unique) and foreign keys. Provide a screenshot of the table structure screen in Adminer and include the columns, indexes, and foreign keys sections.

Graphical user interface, application

Description automatically generated

1. Implement the **jobs** table as defined in the overview section. Include columns, indexes (pk/unique) and foreign keys. Provide a screenshot of the table structure screen in Adminer and include the columns, indexes, and foreign keys sections.

Graphical user interface, text, application

Description automatically generated

1. Add 3 contractors to the **contractors** table and provide a screenshot of the Select data screen as evidence they were added.

Graphical user interface, application

Description automatically generated

1. Can you add two contractors with the same email address? Explain.

No, two contractors cannot have the same email address as the email address was set to be a unique key in the table contractors to maintain entity integrity in the table contractors. Hence similar email addresses won’t be allowed.

1. Can you add a contractor from the state of MA? Explain.

No, you cannot add a contractor from the state of MA as the contractor-state is a foreign key that references the primary key of the state\_lookup table which is state-code. state-code only allows 4 codes which are NY, Pa, NJ, and CT. This is done to maintain referential integrity and to limit the states to 4.

# Reflection

Use this section to reflect on your learning. To achieve the highest grade on the assignment you must be as descriptive and personal as possible with your reflection.

1. What are the key things you learned through the process of completing this assignment?

The key things I learned through the process of this assignment are how to create tables on adminer with primary keys to maintain entity integrity and the use of foreign keys to maintain referential integrity. I also learnt about the use of the various data types used. Additionally, I also understood the benefit of using a natural key with a surrogate key to maintain entity integrity in a table.

1. What were the challenges or roadblocks (if any) you encountered on the way to completing it?

There weren’t many challenges or roadblocks that I encountered on the way to completing this assignment. Adminer is a great tool, and though it has its flaws, it is a great tool to use as an introduction to database management, especially for someone with little practical experience.

1. Were you prepared for this assignment? What can you do to be better prepared?

Yes, I was very well prepared for this assignment. The only way to be better prepared for this would be to go through the textbook.

1. Now that you have completed the assignment rate your comfort level with this week’s material. This should be an honest assessment: (choose one)  
     
   4 ==> I understand this material and can explain it to others.