Unit 02 Problem Set Submission Form

# Overview

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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.

A table consists of metadata, which basically is data about data. It describes, structures or adds meaning to data. To create a table to represent your data, you need rows and columns, or metadata, to define the data being entered.

1. Describe what happens when you attempt to insert 200 characters into a column with a data type of varchar (50)?

An error message will show up saying that we have conflicted with the foreign key constraint and the data type we have set, varchar. With varchar, we have set a 50 character limit so if a piece of data entered is more than 50 characters, it will not be able to be entered as it is over our character limit.

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

We enforce entity integrity when choosing a surrogate key by using it as a unique constraint. A unique constraint functions like a primary key constraint but does not affect the physical order of the data in the table. This helps to keep the table relational.

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

   Description automatically generated
2. 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.   
   A screenshot of a social media post

   Description automatically generated
3. 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.   
   A screenshot of a cell phone

   Description automatically generated
4. Add 3 contractors to the **contractors** table and provide a screenshot of the Select data screen as evidence they were added.  
   A screenshot of a cell phone

   Description automatically generated
5. Can you add two contractors with the same email address? Explain.

No we cannot add two contractors with the same email address because we added a unique constraint on it which results in that no two email addresses can be duplicated as it is a unique value.

1. Can you add a contractor from the state of MA? Explain.  
   No we cannot add a contractor from the state of MA because the state was not added as a value in the state\_lookup table.

# 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?

I learned how to create a table manually using Adminer that included columns (metadata) to define the data being entered. I also learned about the different data types you can assign to the data and what they mean. For example, setting a varchar of 50 means there is only a 50 character limit. I also learned how to add indexes such as a primary key so no values are duplicated which is essential for large data as mistakes can be prevented.

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

It was a little tricky assigning the indexes and foreign keys (knowing what source and what target to choose from) as well as assigning checks.

1. Were you prepared for this assignment? What can you do to be better prepared?
2. I would say that I was prepared as I have done the prior readings and watched the video lecture beforehand. However, to prepare better, I wish that I have quickly reviewed lab 1 as I missed some key starter elements to get the databases and server turned on.
3. 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.**  
   3 ==> I understand this material.  
   2 ==> I somewhat understand the material but sometimes need guidance from others.  
   1 ==> I understand very little of this material and need extra help.