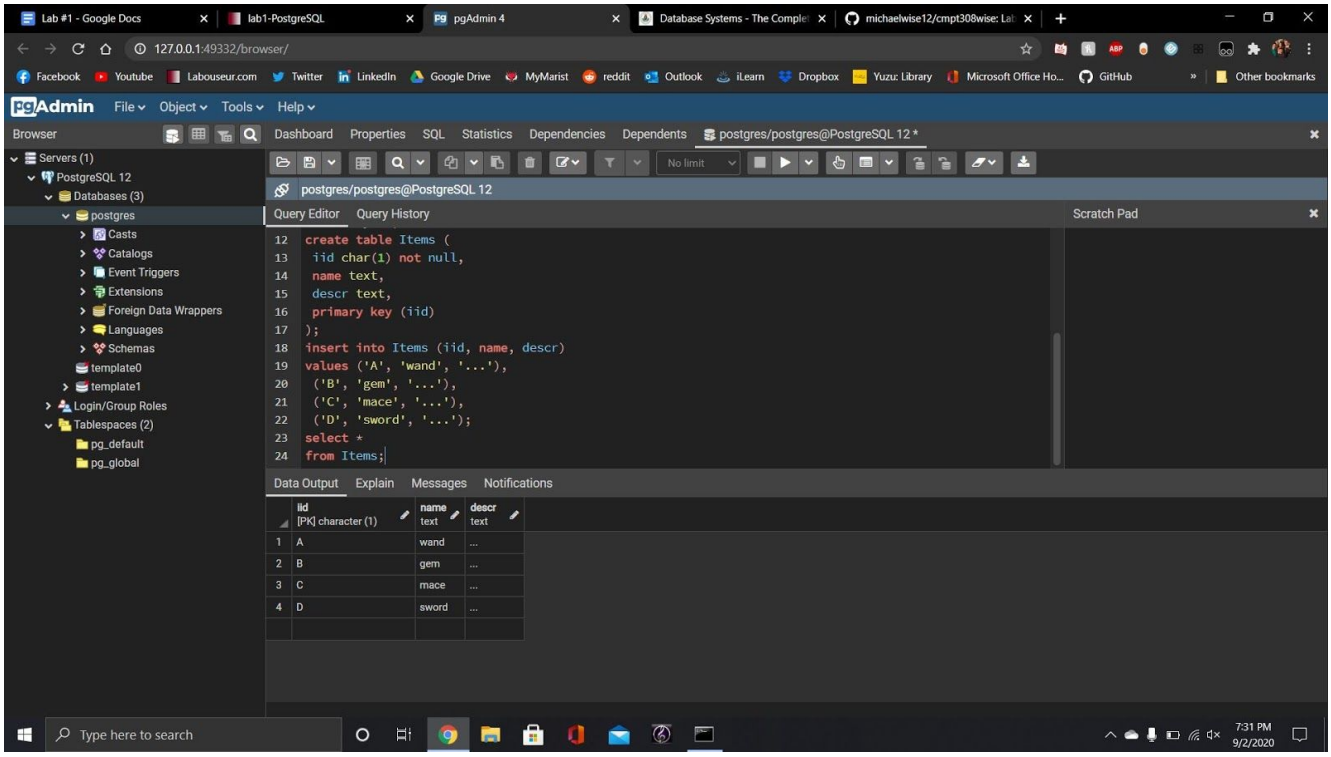
Michael Wise
Dr. Alan Labouseur
CMPT 308 Database Management
3 September 2020

Lab #1: PostgreSQL

1. pgAdmin running on my computer:



2. One example of a database is how Facebook uses MySQL. They use it as the main system to store any posts, personal information, friends, groups, etc. all in the form of, well, data. Facebook takes all of this data and organizes it all onto your timeline. Everything you see on your timeline is manipulated from the huge MySQL system to be organized as information that you scroll through on the timeline. As we covered in class, data by itself is just facts, figures, and numbers. It is only when we give the data context is when we consider it information. We have to process it, structure it, organize it, interpret it and present it to actually make it *useful.* Let's say I recorded how many Big Macs I ate over the past year. That by itself doesn't really tell you anything. However, if we organized it in a way where I could view my monthly Big Mac consumption and see the rate of change, then we can call it information. For example, I could conclude that my Big Mac consumption has increased tremendously from February 2020 (avg. 4 Big Macs/month) to September 2020 (avg. 14 Big Macs/month). Now *that* is information, and I should probably call my doctor to check in on my health. Once we have information, we can use that to make decisions to better things like organizations and businesses. Whether it be solutions

to business challenges or analyzing trends in the infection rate of a deadly virus, information that we process from data plays a crucial role in our society.

3. In the hierarchical database model, data is organized into a tree-oriented structure. All of the data, stored in records, connected to each other. So, if I wanted to get data from a hierarchical database, it would have to span the entire tree going through each link in the records. I know that the Windows Registry is a hierarchical database, and hence, that is why I hate the Windows Registry. The network model is actually allowed to have multiple parent and child records, creating a graph-oriented interface. This works and all, but Edgar Codd's relational model quickly became the mainstream. This model uses a collection of tables called relations. Each relation has certain attributes, which are elements of a set. We can use relational operators to change the data that is in the tables. The relational format, as a result, has a lot of advantages over the hierarchical and network models. They are simpler and do not rely on the structure of the data. When considering XML data, it is primarily hierarchical, making reading and storing its data more redundant. While XML might seem fine for smaller sets of data, it ultimately is better to use a relational model with a lot of data just for the sake of efficiency.