**RBW Designs Reflection**

This project served as a great way to test our knowledge of database and query design. Starting from the beginning, we decided to take a unique to the task by creating our own company. We thought that we had a good scope for this project and were able to easily create our database design. Since we decided to include 8 tables in our design, data entry was tedious. However, it was helpful to have many options for when we were designing the queries. It also helped to have more tables to visualize the development and sales process of our backpacks.

To begin our project, we created the vision of our company and then the necessary elements of a database we would need to run our business efficiently and store the vital information for possible analysis. We then began designing the database. During the design process, we thought about potential queries we could run to help us run our business and focus on key states and products, but we did not fully design the queries until the end of the project. We also ordered the columns in the tables based on our thought process when designing the database with proved to be challenging when inserting data in a non-logical pattern.

The most enjoyable part of this project was creating our company and thinking about how we would run our company as well as learning how to properly represent that in the database. We also greatly enjoyed learning how to design and execute queries in order to make conclusions about our customers and the effectiveness of our products.

While this project for the most part was enjoyable and ran smoothly, there were a few bumps in the road. One thing that would have saved us a lot of time was if we knew that editing in design view would not make changes to our database code. Given we assigned all of our foreign keys and made changes to certain data types and Null/Not Null functions, we put ourselves in position to do double the work required since we did not know that those changes would not be reflected in the code we were saving and putting on GitHub. Therefore, we later had to translate our changes into our code.

Another bump in the road was in regards to data type and data entry. We found that data entry was the most time consuming aspect of the project with both trying to find the correct data types as well as creating reasonable data especially with regard to order dates and when customers order their first product.

To help with the data type challenge, we did quite a bit of self-study about the different data types as well as how to format the data in the data entry aspect of the project. For example, we ran into trouble when entering dates as we later discovered that dates must be formatted ‘year-month- day’. On our first attempt of data entry we did not realize this and tried to run our code with the date formatted as month/day/year. This led us to receive an error message. We, therefore, looked to the internet for some self-study while trouble shooting.

We also ran into a challenge when inserting data into our tables. We mistakenly tried to enter data into the Product and Sales table before other data was defined. For example, we tried to enter data into the Product Table before entering data into the Product\_Type table. Therefore, when we attempted to execute the Product Table, we ran into an error. We realized, while troubleshooting, that we had to define the ProductTypeIDs first. We ran into a similar issue for the Sales table as this table has four foreign keys, and therefore, requires all four tables to have data before data can be inserted into the Sales table. We fixed our mistake by reordering the “Insert Into” functions, and putting the Sales table last.

Overall, we worked really well as a team. We divided and conquered where applicable with one of us looking things up while the other was working on the code. We did the project together in a library study room in order for us to troubleshoot any errors together. We believe this worked extremely well as when we got stuck, we could talk out the errors. However, the process did become fairly repetitive when we were just working on data entry as we were working on one laptop to enter all 80 entries. We believe that this project was truly beneficial to our learning process as it was a great way to test our knowledge of database creation and querying. While overall the project ran smoothly, there were moments of stress when we were having a hard time choosing the right data type for our database and entering the data in the correct format. With a little help from the music playing in the background, we took to the internet to find some ideas of how to fix our code and ended up creating a database that we believe is suitable for our business idea.