README FOR MODULE 5 CHALLENGE

**Challenge Background and Objective:**

The following code will be used to analyze sales data to gain insights into U.S. cities that have sold the most athletic wear and determine which retailers had the greatest total sales for athletic wear, and sold the most women's athletic footwear, over the last 2 years. The code will utilize functions such as the groupby, pivot\_table, resample, and import of csv files. This completed code can be found at (<https://github.com/Ebylisa/athletic_sales_analysis> ) on GitHub.

**Code Summary:**

This code was completed using the following steps. (1) - A repository was created called athletic-sales-analysis in GitHub. (2) - A starter code named athletic\_sales\_analysis\_starter\_code.ipynb was created on the local Git repository and pushed to GitHub. (3) - The csv files athletic\_sales\_2020.csv and athletic\_sales\_2021.csv were imported for the data analysis. (4) - The csv files were read in as data frames. (5) – Top 10 rows of each data frame was viewed. (6) The data types of both data frames were viewed. (6) - The two data frames for 2020 and 2021 were combined into one data frame using concatenation. (7) Any null values were removed from the new data frame. (8) The datatype was changed for the “invoice\_date” column. (8) The groupby and pivot functions were used to analyze the data and determine which region sold the most products, this included sorting data and rename of the “Total\_Products\_Sold” to an upper case from lower case, and viewing the top 5. (9) The groupby and pivot functions were used to analyze the data and determine which region had the most sales, this included sorting data and rename of the “Total\_Sales” to an upper case from lower case, and viewing the top 5. (10) The groupby and pivot functions were used to analyze the data and determine which retailer had the most sales, this included sorting data and rename of the “Total\_Sales” to an upper case from lower case. (11) The groupby and pivot functions were used to analyze the data and determine which retailer sold the most womans footwear, this included sorting data and rename of the Womens\_Footwear\_Units\_Sold" to an upper case from lower case, and viewing the top 5.

(7) - The region that sold the most products was analyzed using two methods (groupby and pivot\_table functions) with each rendering the same results. (8) - The region that sold the most sales was analyzed using two methods (groupby and pivot\_table functions) with each rendering the same results. (9) - The retailer that had the most sales was analyzed using two methods (groupby and pivot\_table functions) with each rendering the same results. (10) - The retailer that sold the most women's athletic footwear was analyzed using two methods (groupby and pivot\_table functions) with each rendering the same results. (11) - The day and week with the most women's athletic footwear sales were analyzed using a pivot\_table and resample functions.