# Descriptive Methods Assigment

## General Instructions

In order to make the grading speedy and streamlined, the assignment submission takes place through a quiz/exam format. All the required files (if any) and answer submissions will take place through the *Descriptive Methods Assignment Submission Spac*e under the Quizzes tab.

The detailed assignment instructions, including grading criteria, possible hints, and submission instructions, are located as part of the questions outlined in the D*escriptive Methods Assignment Submission Space*. This document only provides general instructions and conditions for the assignment.

Please note that you can save your answers there and keep working on them up until the assignment deadline is reached. If you happen to submit your assignment earlier than the deadline, your submission will be considered **final**, and you will **NOT** be allowed to change or modify your answers under any condition or for any possible reason. Hence, I strongly advise against submitting your answers before the deadline is reached unless you are confident that you no longer wish to modify your answers.

## **Assignment Context and Questions**

### **Business Understanding & Context:**

You are given transaction records for one week of point-of-sale transactions in a relatively big supermarket. You need to answer the following questions using the given data set located under the Descriptive Assignment dropbox. Please note that data mining is an iterative process!

### **Data Understanding**

Each attribute refers to a product name except  “item count” which refers to the number of items in each basket, and “basket” which refers to the receipt number for each point-of-sale transaction.

### **Questions and Required Analysis:**

1.    Considering the business context, data specification, and the questions you need to answer on this assignment, which data modeling technique(s) do you think would most likely enable you to achieve this analysis goal?

2.    Did you have to go through any data preparation processes? If so, explain what you did and why you did.

3.    What is the average number of items bought in each point-of-sale transaction?

4.    What is the total number of items bought by customers of this store on this given week?

5.    If the average transaction value is $20, what would be the store’s this week's revenue?

6.    What is the top-selling item(s) in this store on this given week?

7.    What is the runner-up (second place) top-selling item(s)?

8.    If the average price for the top-selling item is $3, how much revenue did the store generate from selling this item?

9.    What are the two most popular items that were bought together on this given week?

10.    How many times (not percentage) the top-selling set of items were exactly bought together this week?

11.    What are the two second-most popular items (runner-up items) that were bought together on this given week?

12.    Assume that the top set of items bought together are items A and B; what is the probability of a person purchasing item B while you know this person has already purchased item A. In your answer, You need to clarify which product is item A and which product is item B.

13.    Assume that the top set of items bought together are items A and B; what is the probability of a person purchasing item A while you know this person has already purchased item B. In your answer, you need to clarify which product is item A and which product is item B. You also need to stay consistent with your naming convention across this question and the previous one.

14.    The answers to the last two questions are supposed to be ...

15.    Think of at least one actionable business suggestion(s) that can help this store increase its revenue based on the results of your analysis, and explain why you think your suggestion(s) will work.

16.    Upload a screenshot of your final RapidMiner process model (under the Design tab).