

# Instructions

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- This homework assignment is worth 63 points.
- Please submit a **.twb** file for each exercise to Blackboard.
- **Please strive for clarity and organization.**
- **Due Date: February 23, 2024 by 11:59 pm.**

## Exercise 1

For this exercise, we will use a dataset on Amazon's Top 50 bestselling books from 2009 to 2019 (`bestsellers_with_categories.csv`). Contains 550 books, data has been categorized into fiction and non-fiction using Goodreads.

- (3 points) Load the `bestsellers_with_categories.csv` datafile.
- (6 points) Are fiction books more expensive than non-fiction books? Create an appropriate visualization that helps to answer this question. Comment on your findings.
- (6 points) Do more expensive books have better ratings?. Create an appropriate visualization that helps to answer this question. Comment on your findings.
- (8 points) Are books cheaper these days? Do people read more these days? Create two visualizations that help to answer these questions. Comment on your findings.
- (10 points) Open a new worksheet. Create a new parameter called **Minimum Rating**, set the data type to float, set the current value to 4. Check range and use the following: minimum 4, maximum 5, and step size 0.1. Make sure to add the associated parameter control to the view. Then, create a new calculated field called **Filter Author by Rating**. Notice that the field **Filter Author by Rating** will filter authors with ratings greater than **Minimum Rating** selected. Create an appropriate visualization that shows the authors (with ratings greater than the value of the parameter **Minimum Rating**) with their corresponding average rating.

## Exercise 2

For this exercise, we will use the `StudentsPerformance.csv` datafile. We want to understand the influence of the parents' background, test preparation, and other factors that may influence students' performance.

- (3 points) Load the `StudentsPerformance.csv` file to Tableau.
- (6 points) Create a visualization that compares the average scores of math, reading, and writing based on test preparation. Comment on your findings.

- (c) (6 points) Is there any relationship between **Math Score** and **Lunch**? Is this relationship consistent among female and male students? Create a visualization that explores the relationship between them. Comment on your findings.

## Exercise 3

Consider the `CoffeeAndCodeLT2018.csv` datafile. Lebanon ranked first among the Arab countries in consuming coffee. This short survey focused on the Lebanese programmers only. The aims were to examine if the Lebanese programmers consume coffee above the normal average level comparing to the average consumption in Lebanon which is 1.4 cups of coffee per day.

- (a) (3 points) Load the `CoffeeAndCodeLT2018.csv` file to tableau.
- (b) (6 points) Is there any relationship between **Coding Hours** and **Coffee Cups per Day**? Is this relationship consistent among female and male programmers? Create a visualization that explores the relationship between them. Comment on your findings.
- (c) (6 points) Create a visualization that show the coffee type popularity across the different age ranges. Make sure to include **Age range** as filter. What are the two most popular coffee types among 39 or younger programmers?

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<sup>1</sup>Make sure you submit `*.twb` files in Blackboard.