Data Analytics and Visualization

Project 1 Exploratory Data Analysis Report

Project Task

You will be tasked with crafting an exploratory data analysis report, utilizing Excel for the analysis. The primary objective is to generate a comprehensive report that

1. Highlights at least one interesting aspect of the data, and
2. Allows a reader to interactively explore other aspects of the data

Focused Areas

- Exploratory data analysis
- Analytics storytelling
- Basic data analysis and visualization in Excel

Dataset

The dataset we'll be using is about workplace fatalities. It can be found here. Within this dataset you will find data points on fatalities, injuries, inspections, and penalties for each state in the US for the year 2012.

Deliverables

Your report will be evaluated on how well it meets the following criteria:

1. Summarizes descriptive statistics about the data, including at least one descriptive visualization, such as a box-and-whisker plot or histogram displaying the distribution of a variable
2. Contains an interactive element that lets a user cut into the data, e.g., an Excel pivot table with slicers
3. Generates interesting questions about the data and explores those questions with two or more visualizations that highlight an insight about the data, possibly applying transformations to the data. For example, a scatter or line plot showing the relationship between two variables.
4. Effectively uses of analytical storytelling to convey insight(s), including good practices for visualizations

As part of these criteria, your report should answer **at least** the following questions:

- Which program, state or federal, has the highest rate of fatalities?
- Which state with a state program has the highest number of injuries/illnesses?
- What is the relationship, if any, between "Average of Years to Inspect Each Workplace Once" and "Rate of Fatalities"?

Project Submission

When you have completed the project, upload following deliverables under project submission section.

1. An Excel report. You must send an actual file, not publish excel report to the web and send a link.
2. A document (Word file) containing:

   - Details on the questions explored, insights highlighted, and functionality provided by your project
   - Information about which Excel features were used.
   - What information from the Analytics Storytelling course you applied
   - Ideas for future improvement of your project (minimum of 3)

Project Grading

Instructor will take below criteria into consideration while grading your project so please make sure you have covered everything mentioned below to successfully pass the project grading.

Student report should at least answer the following questions.

- Which program, state or federal, has the highest rate of fatalities?
- Which state with a state program has the highest number of injuries/illnesses?
- What is the relationship, if any, between "Average of Years to Inspect Each Workplace Once" and "Rate of Fatalities"?

Submit actual excel file and word document covering all the deliverables.