Department of Information Systems and Technologies

# CTIS 365: Applied Data Analysis

Semester: Spring 2025 -2026

**Lab Guide #3**

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| **OBJECTIVES**: Frequency Distribution Tables & Graphs. Histogram, Stem and Leaf Plot and Bar Plot |
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**Q1.** a. Construct a grouped frequency distribution table using an interval width of 0.5 points on eruptions data and

b. Find the maximum value for the intervals' frequency. You will use the "faithful" dataset which is already defined in R.

**Example run:**

```
duration.cut
[1.5,2) [2,2.5) [2.5,3) [3,3.5) [3.5,4) [4,4.5) [4.5,5)
     51      41       5       7      30      73      61
[5,5.5)
      4

[1] "Maximum of the intervals' frequency is  73"
```

**Q2.** a. Construct a frequency distribution table for the temperature values for "**citiesTemperature.txt"**.

b. Append columns for cumulative frequency, proportion, proportion percentage, cumulative proportion and cumulative proportion percentage to this frequency distribution table.

**Q3.** By using the same dataset from **Q2**.

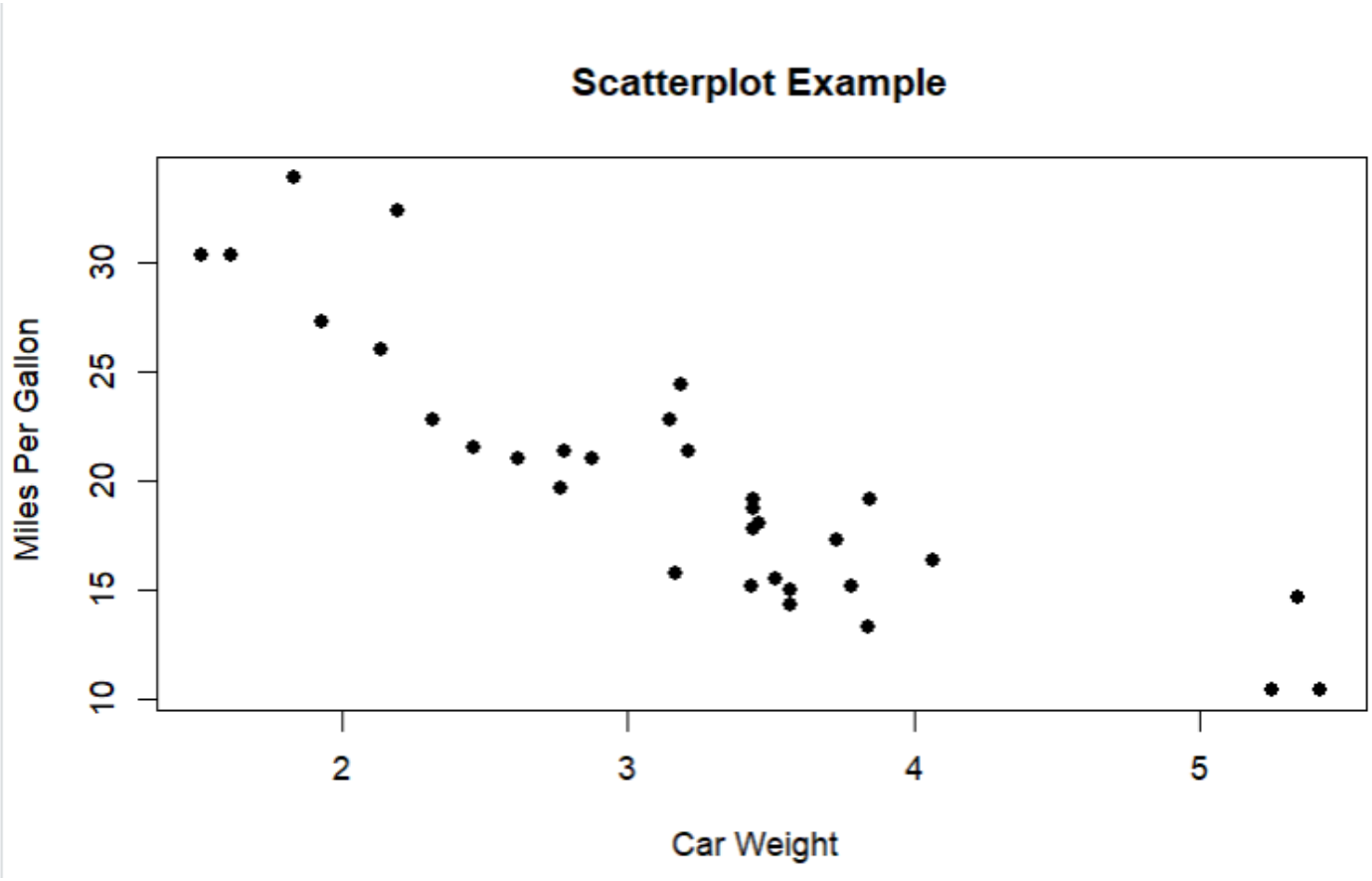
a. Find the percentile rank for X = 39.4?

b. Find the percentile rank for X = 40.6?

**Q4.** Use the built-in dataset **mtcars** then take the gear column find the count of each value and draw a bar plot.

**Q5.** Use the **weight column** from the built-in dataset **ChickWeight** to create a histogram as shown below.

**Q6.** Use the built-in dataset **mtcars** to create a scatterplot similar to the one shown below.


Scatterplot Example
Miles Per Gallon
10
15
20
25
30
2
3
4
5
Car Weight