STEM AND LEAF PLOT

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Table of Contents

Concept of Contigency Table

- It is a way to redraw data and assemble it into a table that shows layout of the original data in a manner that allows us to have an overall summary of the original data.
- In R, we use the commandd table() to interpret the contingency table.
- For example, let there be a vector containing elements- 2,4,5,7,6,6,4,3,2,2.

  We run it in R as-

  x<-c(2,4,5,7,6,6,4,3,2,2)

  print(x)

  table(x)

  The output comes as-

  2 3 4 5 6 7

  3 1 2 1 2 1

- In simple words, it summarizes how many times a particular number or element is present.

Introduction to Stem and Leaf Plot

- A method to represent quantitative data in a graphical format.
- The data is presented in such a way that the range of numeric categories shifts to left and the representation of the frequencies is shifted to the right.
- The command stem() is used to produce the stem and leaf plot.
- The Left side is known as Stem.
- The Right side is known as Leaf.
- To plot a stem and leaf plot, make a vector, run the table() command and then use the stem() command to plot the stem and leaf plot.
- In this, scale() is used to increase or decrease the stem size. By default, scale() is always 1. But, if the scale() is between 0 and 1 then the number of stems decreases and if the scale is greater than 1 then the number of stems increases.

Examples on Stem and Leaf Plot

Case-I (Non decimal two-digit number)

Q Plot a stem and leaf for the elements 12,13, 23,25,24,34

- x<-c(12,13,23,25,24,34)
- table(x)
- 12 13 23 24 25 34
- 1 1 1 1 1 1
- stem(x)
- Output-

The decimal point is 1 digit(s) to the right of the |

1| 2 3

2| 3 4 5

3| 4

Case-II (Decimal two-digit numbers)

Q. Plot a stem and leaf plot for the elements 1.2,1.5,1.6,2.3,2.5,3.1

- y<-c(1.2,1.5,1.6,2.3,2.5,3.1)
- stem(y)
- Output-

The decimal point is at the |

1| 2 5 6

2| 3 5

3| 1

Tens	Units
1	2 3
2	3 4 5

Stem

Leaf

Case-III (Plotting a stem and leaf plot of any numeric column of a data frame)

Q. Plot a stem and Leaf Plot of the eruptions column in inbuilt data set faithful

- Faithful
- stem(eruptions$faithful)

  Note- check whether the data set is data frame or not by running the class() command.

Thank You!