21BDS0340

Abhinav Dinesh Srivatsa

Exploratory Data Analysis Lab

Experiment – VII

**Code:**

# z score method

data = c(10, 10, 11, 11, 12, 12, 13, 12, 11, 14, 13, 15, 100)

mean.data = mean(data)

std.data = sd(data)

z.scores = (data - mean.data) / std.data

# outliers have -3 < z.score < 3

outliers = data[abs(z.scores) > 3]

outliers

**Output:**

> # z score method

> data = c(10, 10, 11, 11, 12, 12, 13, 12, 11, 14, 13, 15, 100)

>

> mean.data = mean(data)

> std.data = sd(data)

>

> z.scores = (data - mean.data) / std.data

>

> # outliers have -3 < z.score < 3

> outliers = data[abs(z.scores) > 3]

> outliers

[1] 100

**Code:**

# inter quartile range method

data = c(10, 10, 11, 11, 12, 12, 13, 12, 11, 14, 13, 15, 100)

q1 = quantile(data, 0.25)

q3 = quantile(data, 0.75)

iqr = q3 - q1

# outliers lie outside of the inter quartile range

outliers <- data[data < q1 | data > q3]

outliers

**Output:**

> # inter quartile range method

> data = c(10, 10, 11, 11, 12, 12, 13, 12, 11, 14, 13, 15, 100)

>

> q1 = quantile(data, 0.25)

> q3 = quantile(data, 0.75)

> iqr = q3 - q1

>

> # outliers lie outside of the inter quartile range

> outliers <- data[data < q1 | data > q3]

> outliers

[1] 10 10 14 15 100

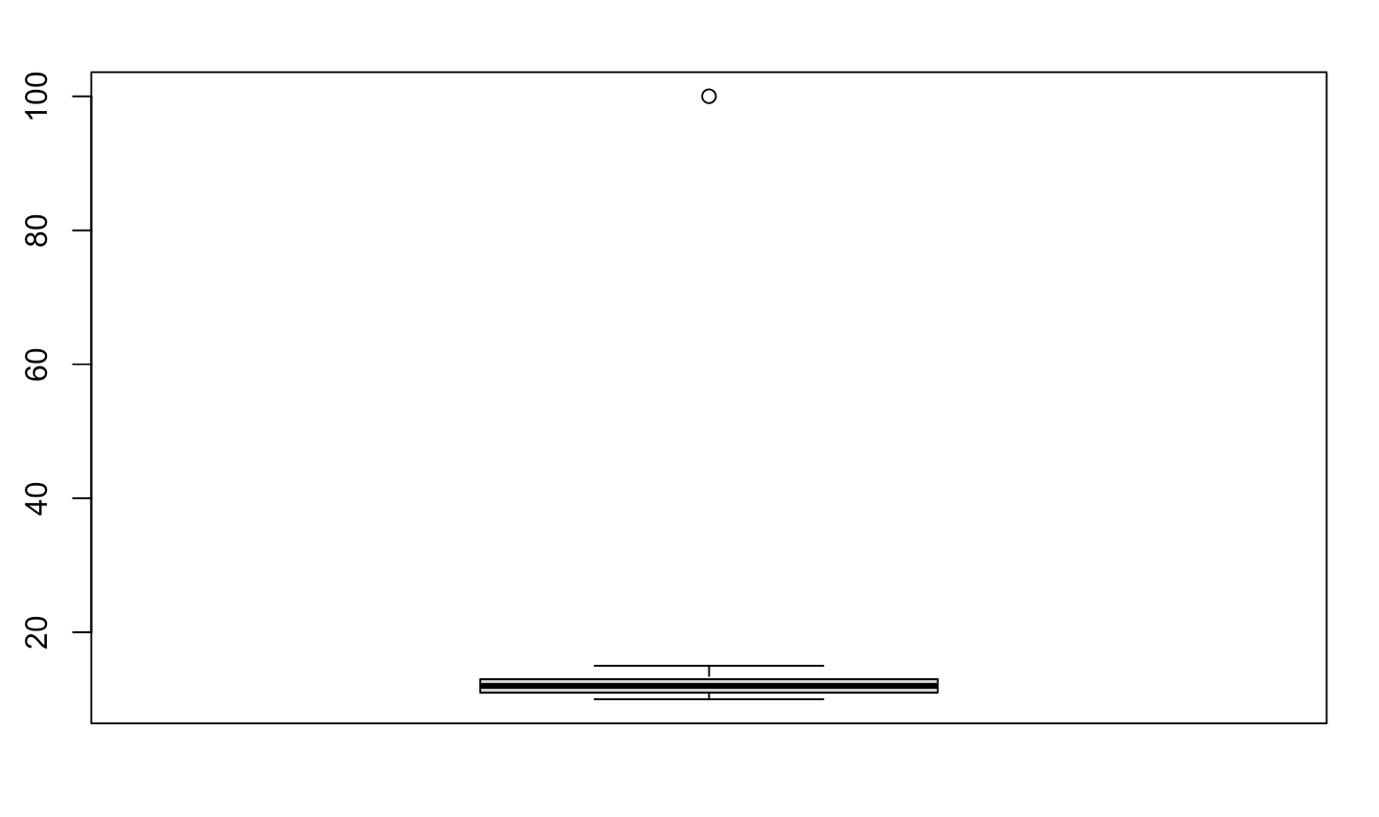
**Code:**

# boxplot method (purely visualisation)

data = c(10, 10, 11, 11, 12, 12, 13, 12, 11, 14, 13, 15, 100)

boxplot(data)

**Output:**

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