

## **Biostatistics**

### **Data Manipulation, Analyses and Visualisation**

#### **Quiz 1**

“Without data you’re just another person with an opinion.”— W. Edwards Deming

##### **Question 1**

List the various data classes and give an explanation and example for each class

List some of the functions used to view your data in R

Discuss skewness and Kurtosis

##### **Question 2**

Load in the necessary packages and explore the built in Orange dataset

```
ls("package:datasets")
```

```
Orange <- datasets::Orange
```

Explain what type of data class this orange dataset belong to

Apply the correct functions to show the first 6 and last 6 rows, column names and summary statistics of the data

Determine the Mean, Median and Standard deviation of the age and circumference of the oranges for each of the trees

Determine, by using the appropriate functions in R, the skewness and Kurtosis for the Orange data

Using the summarise function, determine the minimum, maximum, first and third quantiles for the circumference of the oranges

Create two plots (with labels) of your choice and explain visible trends

##### **Question 3**

Explain the following functions

*mutate()*

*select()*

*group\_by()*

*filter()*

*seperate()*