

# Summary - Maths & Statistics

## 0. Basics

### 0.1 Managing Packages

```
# install.packages("ggplot2")  
library(ggplot2)
```

### 0.2 Data Types

```
typeof(5)  
typeof("text")  
typeof(TRUE)  
  
## [1] "double"  
## [1] "character"  
## [1] "logical"
```

### 0.3 Arithmetic with R

- An addition

```
5 + 5
```

```
## [1] 10
```

- A subtraction

```
5 - 4
```

```
## [1] 1
```

- A multiplication

```
3 * 5
```

```
## [1] 15
```

- A division

```
(5 + 5) / 2
```

```
## [1] 5
```

- Exponentiation

```
2 ^ 5
```

```
## [1] 32
```

- Modulo

```
28 %% 6
```

```
## [1] 4
```

## 0.4 Variable Assignment

```
var1 <- 5  
var2 <- 13  
var1 + var2
```

```
## [1] 18
```

## Vectors & Matrices

- Creating a vector

```
vec1 <- c(1, 2, 3, 4, 5)  
vec1
```

```
## [1] 1 2 3 4 5
```

```
length(vec1)
```

```
## [1] 5
```

- Getting the components of a vector (slicing)

```
vec1[1]
```

```
## [1] 1
```

```
vec1[1:3]
```

```
## [1] 1 2 3
```