

# Vectors

## Types of Vectors

In this chapter, I would learn about the type of vectors. There are basically 4 types of vectors. That is logical (TRUE- FALSE), Integer (non decimal values, NaN and Inf, -Inf), Double (decimal values) and Character.

Vector that is the same type of elements is Atomic Vector. Otherwise it is a list.

```
lgl_var <- c(TRUE, FALSE)
int_var <- c(1L, 6L, 10L)
dbl_var <- c(1, 2.5, 4.5)
chr_var <- c("these are", "some strings")
```

To get the type of the vector, we would use the function typeof()

```
typeof(lgl_var)
```

```
## [1] "logical"
```

```
typeof(int_var)
```

```
## [1] "integer"
```

```
typeof(dbl_var)
```

```
## [1] "double"
```

```
typeof(chr_var)
```

```
## [1] "character"
```

## Missing values

Calculation with NA are mostly NA. Excepting some cases

```
NA + 10
```

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

```
NA * 10
```

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

```
NA < 10
```

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

```
!NA
```

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

NA is something between TRUE and FALSE. Let's see it. When doing with TRUE and FALSE, | returns in TRUE & returns in FALSE. NA is in between.

```
NA | TRUE
```

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

```
NA & TRUE
```

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

```
NA | FALSE
```

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

```
NA & FALSE
```

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

```
NA ^ 0
```

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

Checking if NA equal NA or other numbers. Returns all in NA.

```
x <- c(NA, 1, NA, 2)
```

```
x == NA
```

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

## Testing and Coercion