

Summary of R course by IME

Basics

- Creating and modifying a vector

```
x <- seq(1,4,by = 1)
x[c(1,2,3)] = 5
x
```

```
## [1] 5 5 5 4
```

#or alternatively

```
x <- 1:4
x[1:3] = 5
x
```

```
## [1] 5 5 5 4
```

- Vector multiplication

```
x <- 1:5
y <- 6:10
a <- t(x) %*% y
```

- order() and sort()

#order() creates a permutation vector and can be used to sort data.frames
`sort(x) == x[order(x)]`

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

```
rev(sort(x)) == x[order(-x)]
```

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

- Factors

```
gender = factor(c("male", "female", "female", "male"))
```

Look at it and make a summary table
`gender`

```
## [1] male   female female male
```

```
## Levels: female male
```

```
table(gender)
```

```
## gender
## female   male
##        2     2
```

```
#Find number of males  
sum(gender == "male")
```

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

- Matrices

```
#Creating matrices  
matrix(1:6, nrow = 2, ncol = 3, byrow = TRUE)
```

```
##      [,1] [,2] [,3]  
## [1,]    1    2    3  
## [2,]    4    5    6
```