

# 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
```

- Matrix/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
```

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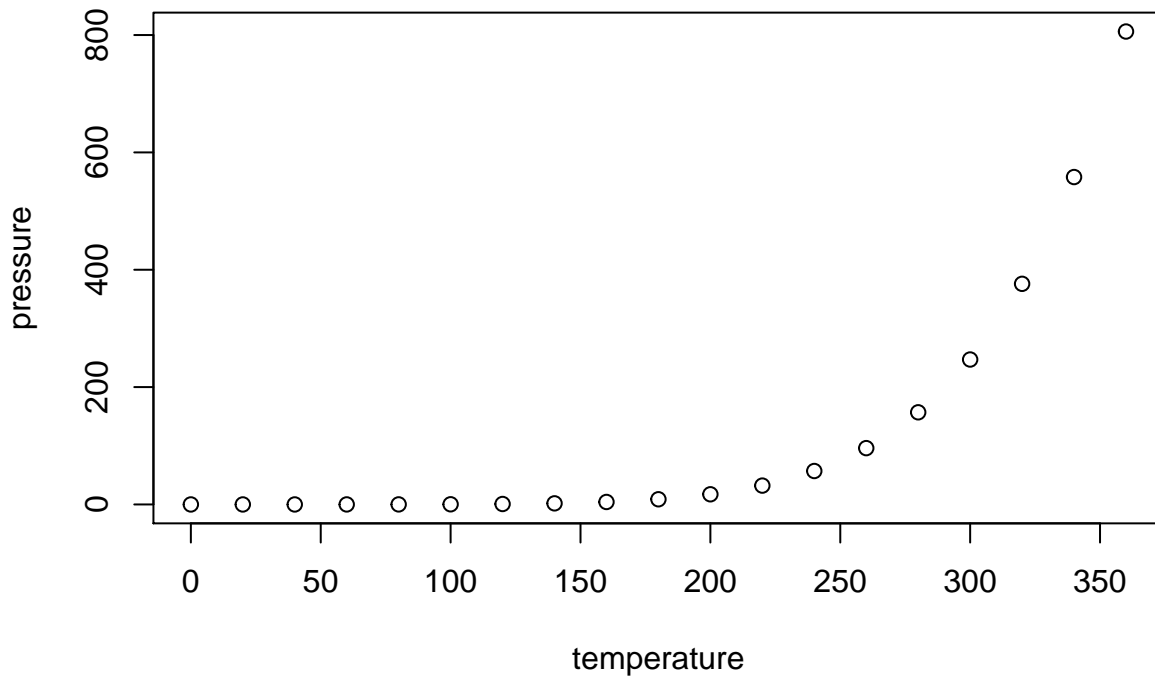
When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
summary(cars)
```

```
##      speed      dist  
##  Min.   : 4.0    Min.   :  2.00  
## 1st Qu.:12.0    1st Qu.: 26.00  
## Median :15.0    Median : 36.00  
## Mean   :15.4    Mean   : 42.98  
## 3rd Qu.:19.0    3rd Qu.: 56.00  
## Max.   :25.0    Max.   :120.00
```

## Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.