cp7_assignment_instructions

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Functionals

Exercise 1

```
##      [,1] [,2] [,3] [,4]
## [1,]    7  111  116  121
## [2,]   32  112  117    2
## [3,]   49  113  118   17
## [4,]    0  114  119   70
## [5,]    2  115  120   77
```

Construct the above matrix and assign it to the variable `anotherMatrix`

Use the apply function to calculate the following.

`anotherMean`: the means of each row of `anotherMatrix`.

`yetAnotherMean`: the means of each column of `anotherMatrix`.

`sortedRows`: where the columns of `anotherMatrix` are sorted in ascending order.

Exercise 2

Use `lapply`, `sapply` and `mapply` on the `mtcars` dataframe to get the minimum value of each column.

`l <- lapply()`

`s <- sapply()`

`m <- mapply()`

Make a list of the three new objects, assigned to `listOfApplys`

Then use `sapply` to return the `class` of each element of the `listOfApplys`, assign it to `typesOfApplies`.

Exercise 3

Titanic

Use the apply family to create the following tables (read `matrix`) about the built-in `Titanic` dataset.

The sum of males vs females aboard. Assigned to `passengersBySex`.

The sum of survivors vs sex. Assigned to `survivorsBySex`.

The sum of males vs females aboard. Assigned to `passengersBySexByAge`.

Exercise 4

Use the apply family and the built-in `iris` dataset to generate plots! You'll need to run `install.packages("vioplot")` in the console, and include `library(vioplot)` in your submission too.

First, create a boxplot for each numeric column of the `iris` dataset. (four boxplots), assign your apply call to the variable `box`.

```
box <- apply()
```

Next, construct a violin plot for each numeric column, remove the numbers from the x-axis, and specify `color = "salmon"`, assign your apply call to the variable `violin`.

```
violin <- apply()
```