✖

Week 3 Quiz

✔ **4/5 questions correct**

Quiz passed!

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✔ 1.

Take a look at the 'iris' dataset that comes with R. The data can be loaded with the code:

```
library(datasets)
data(iris)
```

A description of the dataset can be found by running

```
?iris
```

There will be an object called 'iris' in your workspace. In this dataset, what is the mean of 'Sepal.Length' for the species *virginica*? **Please round your answer to the nearest whole number.**

(Only enter the numeric result and nothing else.)

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Well done!
To get the answer here, you can use 'tapply' to calculate the mean of 'Sepal.Length' within each species.

❌ **2.**

Continuing with the 'iris' dataset from the previous Question, what R code returns a vector of the means of the variables 'Sepal.Length', 'Sepal.Width', 'Petal.Length', and 'Petal.Width'?

○   apply(iris, 1, mean)

◉   apply(iris[, 1:4], 1, mean)

Sorry, that's incorrect.
this takes the row means of the dataset.

○   apply(iris, 2, mean)

○   apply(iris[, 1:4], 2, mean)

○   rowMeans(iris[, 1:4])

○   colMeans(iris)

✔️ **3.**

Load the 'mtcars' dataset in R with the following code

```
library(datasets)
data(mtcars)
```

There will be an object names 'mtcars' in your workspace. You can find some information about the dataset by running

```
?mtcars
```

How can one calculate the average miles per gallon (mpg) by number of cylinders in the car (cyl)? Select all that apply.

☑   with(mtcars, tapply(mpg, cyl, mean))

> **Well done!**

☐ lapply(mtcars, mean)

> **Well done!**
> this calculates the mean of each column and returns them in a list

☐ split(mtcars, mtcars$cyl)

> **Well done!**
> this just splits the data frame by number of cylinders

☐ tapply(mtcars$cyl, mtcars$mpg, mean)

> **Well done!**
> this computes the mean number of cylinders by mpg.

☑ sapply(split(mtcars$mpg, mtcars$cyl), mean)

> **Well done!**

☐ apply(mtcars, 2, mean)

> **Well done!**
> this computes the mean of each column.

☐ mean(mtcars$mpg, mtcars$cyl)

> **Well done!**
> this returns an error in R.

☐ sapply(mtcars, cyl, mean)

> **Well done!**
> this returns an error in R.

☑   tapply(mtcars$mpg, mtcars$cyl, mean)

> Well done!

✔ **4.**

Continuing with the 'mtcars' dataset from the previous Question, what is the absolute difference between the average horsepower of 4-cylinder cars and the average horsepower of 8-cylinder cars?

(Please round your final answer to the nearest whole number. Only enter the numeric result and nothing else.)

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> Well done!

✔ **5.**

If you run

```
debug(ls)
```

what happens when you next call the 'ls' function?

○   The 'ls' function will execute as usual.

◉   Execution of 'ls' will suspend at the beginning of the function and you will be in the browser.

> Well done!

○   You will be prompted to specify at which line of the function you would like to suspend execution and enter the browser.

○   The 'ls' function will return an error.