Week 3 Quiz

5/5 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'?

- colMeans(iris)
- apply(iris, 1, mean)
- apply(iris[, 1:4], 2, mean)

Well done!

- apply(iris, 2, mean)
- apply(iris[, 1:4], 1, mean)
- rowMeans(iris[, 1:4])

✔ 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.

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

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

☐ lapply(mtcars, mean)

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

☐ sapply(mtcars, cyl, mean)

Well done!
this returns an error in R.

☐ apply(mtcars, 2, mean)

Well done!
this computes the mean of each column.

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

Well done!

☐ split(mtcars, mtcars$cyl)

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

☐ mean(mtcars$mpg, mtcars$cyl)

Well done!
this returns an error in R.

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

Well done!

☐ with(mtcars, tapply(mpg, 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?

- Execution of the 'ls' function will suspend at the 4th line of the function and you will be in the browser.
- Execution of 'ls' will suspend at the beginning of the function and you will be in the browser.

Well done!

- The 'ls' function will return an error.
- You will be prompted to specify at which line of the function you would like to suspend execution and enter the browser.