Week 3 Quiz

5 questions

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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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)
- 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.

- [x] with(mtcars, tapply(mpg, cyl, mean))
- [ ] lapply(mtcars, mean)
- [ ] split(mtcars, mtcars$cyl)
- [ ] tapply(mtcars$cyl, mtcars$mpg, mean)
- [x] sapply(split(mtcars$mpg, mtcars$cyl), mean)
- [ ] apply(mtcars, 2, mean)
- [ ] mean(mtcars$mpg, mtcars$cyl)
- [ ] sapply(mtcars, cyl, mean)
- [x] tapply(mtcars$mpg, mtcars$cyl, mean)

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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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.
- 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.

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