# Homework 4

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## Quarto

Quarto enables you to weave together content and executable code into a finished document.
To learn more about Quarto see https://quarto.org.

## Task 1: Conceptual Questions

```
#Create a list with the requested questions
my_list <- list("1. What is the purpose of the lapply() function? What is the equivalent purr
"2. Suppose we have a list called my_list. Each element of the list is a numeric data frame
are numeric). We want use lapply() to run the code cor(numeric_matrix, method = kendall)
on each element of the list. Write code to do this below! (I'm really trying to ask you how y
method = kendall when calling lapply())",
"3. What are two advantages of using purrr functions instead of the BaseR apply family?",
"4. What is a side-effect function?",
"5. Why can you name a variable sd in a function and not cause any issues with the sd functio

#print the questions/list
my_list
```

```
[[1]]
[1] "1. What is the purpose of the lapply() function? What is the equivalent purrr function?"

[[2]]
[1] "2. Suppose we have a list called my_list. Each element of the list is a numeric data fra

[[3]]
[1] "3. What are two advantages of using purrr functions instead of the BaseR apply family?"

[[4]]
```

```
[1] "4. What is a side-effect function?"

[[5]]
[1] "5. Why can you name a variable sd in a function and not cause any issues with the sd fu
```

### Question 1

lapply() is used to apply functions across many rows/columns and the "l" ensures R always outputs a list.

### Question 2

### Question 3

Two advantages of using `purr` functions instead of `BaseR` apply family are: 1. Greater consistency between functions. For example, you can predict the output type exclusively from the function name, which isn't always true for `BaseR` apply functions. 2. `Purr` also has some functions to fill in some gaps such as `imap()` where you can map simultaneously over `x` and its indices.

### Question 4

A side-effect function does something beyond it's function return value. For example, write files to a disk. If we want the side effect of `hist` (which is the visual part) we can use the `walk()` function to only print the histogram.

### Question 5

We can name a variable `sd` in a function and not cause any issues with the `sd` function because functions have their own temporary environment. So, once the function executes, all variables within that function are "gone" or in other words, not saved to the main environment.

## Task 2: Writing R Functions

### Question 1

### Question 2

### Question 3

### Question 4

### Question 6

### Question 6

```
[1] 4
```

## Task 3: Querying an API and a Tidy-Style Function

### Question 1

### Question 2

### Question 3