Loopy for Loops, Silly for Samples - Hands-on!

YOUR NAME

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Outline

Hello R students your silly student coder has returned to make your assignments notably worse than if Dr. B had made them. This week you will learn:

-intro to loops: for (you will later learn about while and repeat) -intro to sampling -as much dplyr as I can include to drive Levi crazy (ask Levi about his beef with tidyverse if you are unaware).

What is a loop?

Loops are a programming element that repeat a portion of code a set number of times until the desired process is complete. source (http://support.kodable.com/en/articles/417331-what-are-loops#:~:text=Definition%3A%20Loops%20are%20a%20programming,save%20time%20and%20minimize%20errors.)

This guide someone wrote on the internet is really good if you want to also read it. https://intro2r.com/conditional-statements.html

We are going to be focusing on for loops. A for loop applies a command to each value provided then stops. basic example:

```
for (i in 1:5) {
  print(i)
}
```

```
## [1] 1
## [1] 2
## [1] 3
## [1] 4
## [1] 5
```

You don't actually have to use i for the value there but most people do.

So this loop printed each value for i. How would you write code that printed the values 6-10?

```
for (i in 6:10) {
  print(i)
}
```

```
## [1] 6
## [1] 7
## [1] 8
## [1] 9
## [1] 10
```

It's often useful to define a placeholder variable before running your loop. For example, this loop calculates the mean of a given data set.

```
numbers <- c(4, 22, 6, 13, 19, 2, 11)
sum <- 0
for(num in numbers) {
  sum <- sum + num
}
mean <- sum / length(numbers)
print(mean)
```

```
## [1] 11
```