Lecture 1.8 – Lists and Data Frames

Specific Learning Objectives:

1.1.10 – Create vectors, arrays, matrices, lists, and data frames.

1.1.11 – Understand vectors and vectorized calculations.

1.1.12 – Learn how to index vectors, arrays, matrices, lists, and data frames.

Check Your Understanding

Which class of object would you use if you needed:

a) **Members of different sizes**

b) **Members of different classes**

c) **Both a and b**

	List	Data frame
a)	✓	✗
b)	✓	✓
c)	✓	✗

Check Your Understanding

Create a list in which each member contains one of each data types you've learned so far in the course!

Check Your Understanding

In the `ToothGrowth` data set, how can you print out all the measured tooth lengths from their study?

How can you find the mean and standard deviation of these lengths?

Check Your Understanding

In the `ToothGrowth` data set, how can you print out all the measured tooth lengths from their study that were only given a dose of 1.0?

How can you find the mean and standard deviation of these lengths?

Can you find the mean of the tooth lengths for animals given an OJ dose of 1.0?

Using GenAI – have healthy skepticism

Load the Harman23.cor data set into R using:

> data(“Harman23.cor”)

Try this:

> mean(Harman23.cor$forearm)

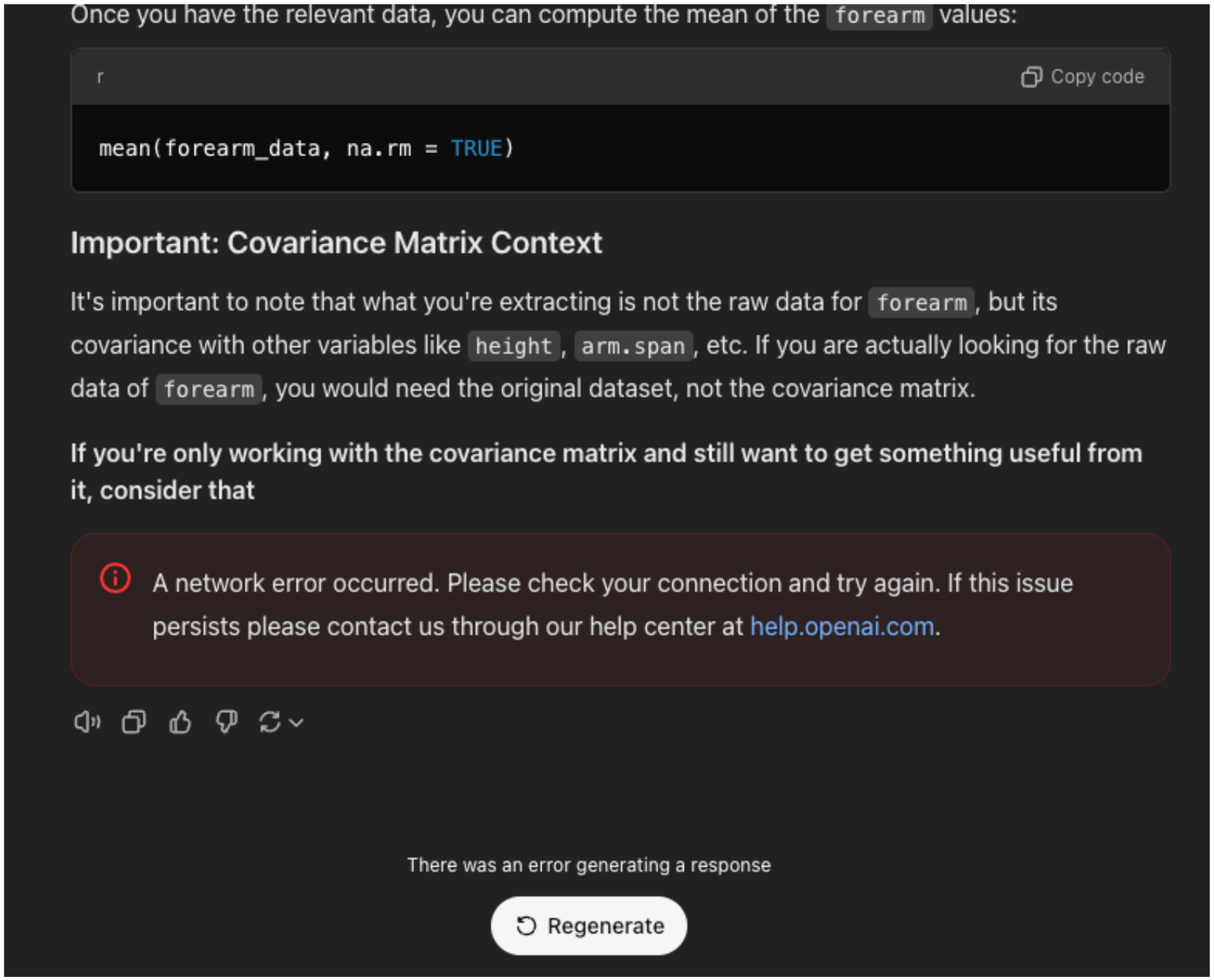
It returns NA, but isn’t suppose to be. The answer is 0.596.

Work with a partner and ask ChatGPT how to fix this. Try to figure out the right line of code that returns the correct answer.

Using GenAI – have healthy skepticism

Were you all able to figure it out?

How difficult was it?



In-class Exercises

1. Catchup with assignments. Any questions on these?
2. Assignment 1.10
3. Assignment 1.11

Action Items

1. **Complete Assignments 1.10 and 1.11.**

2. **Read Davies Ch. 6 for next time.**