In Task 2, what might you change if you wanted to find how many prime numbers there are up to some arbitrary number N?

- I chose to use a for loop with a range because that range of looping was defined for me. If I do not have that range available then I may choose to utilize something like a while loop instead. A while loop allows you to continue to keep looping until a condition that you define is met. I used this type of loop for the mortgage calculator because each payment duration could be different based on interest rate, mortgage payment and loan amount.

How did you check that your mortgage calculator was computing the correct values? What was a debugging step you took that you found very useful? Go back in time and give yourself advice; write that advice here.

- I started off really small and kept using the outlined test cases to make sure that they were working correctly. I also realized it would be much easier to troubleshoot if I had an output I could visually see and inspect. With this in mind, I made sure to structure the output into a dataframe so that I could print the dataframe in the console and understand how things were progressing. I then used the unit tests to verify if the results were matching what was intended. I started off by building the mortgage calculator as a loop and then placed that inside of function after I made sure it worked. I considered doing this, but never actually took the step of outputting the dataframe as a csv so that I could more easily look at the whole dataframe. I instead used different versions of head and tail to see the pattern on the paid amount as it developed.

How did you deal with the infinite loop case of the mortgage calculator?

- I used a break statement once the condition was met along with printing an error to notify the person executing the code that the mortgage payment probably needs to be adjusted to pay off the loan.

What was it like to use the unit tests for this assignment?

- I was failing 3 unit tests and through understanding those unit tests, I was able to decipher that the way I was adding payments was incorrect. I also went and looked at the actual language in the unit tests and it became very clear on my loan calculator what I was trying calculate towards.

Describe one thing that you learned while working on this lesson that stood out as useful or interesting.

- I have learned more and more about functions over my team with Python, so was very excited to quickly be able to use a function for question number 3 and it made things substantially easier for me to finish the assignment. I am really enjoying using pytests and cannot wait to figure out how to write my own pytests. I want to experiment more with functions for the next two assignments. I also used pseudocode a few times to make sure I understood the problem before I actually wrote any code, which was extremely helpful if I started to make a mistake somewhere.