Introduction – The problem I was trying to solve was to find the passwords for all the users in the file provided. In doing so I needed to find all possible passwords and add the salt key and hash the passwords once the salt has been added.

Proposed solution design and implementation – The first thing I needed to do was to access the text file. So I opened and read the text file line by line. This was the first method I created called read\_file() it returned the text file as a list. After that I had to create another method called create\_password() which was a recursive method that created all the possible passwords by adding one to the passwords and seeing if the length matches with the length of the given length. If the password was the right length it then went into another method that checked if the password was the right one to work. If it was the right one it retuned it and printed it out.

Experimental results – I do not have any experimental result since my code does not wane run because of an in-depth recursion error

Conclusions – I learned from this lab that there are also different ways to look at how to solve recursion and not just the way I was doing it before

I certify that this project is entirely my own work. I wrote, debugged, and tested the code being presented, performed the experiments, and wrote the report. I also certify that I did not share my code or report or provided inappropriate assistance to any student in the class.