IMT4113 Assignment 2

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Learning Experience

There were two good learning outcomes during this assignment. Firstly, the importance of planing the code before witting it, and how much this practice improves coding speed and cleanness. Secondly, the importance of good enforcement of policies, and how much it affects the effect of the policy and the resulting security. If we have policies that are important to us, but do not implement them well, we might end up with a suboptimal result.

Inputs

The script takes two inputs, the old password and the new password. According to the assignment the old password must be 8 characters long and the new password must be longer than or equal to 8 characters. There are no other checks implemented for the old password. The new password must comply with the policies declared in the assignment as mentioned bellow.

Special characters are detected using the *"aplhanum"* property in the *"isstrprop"* matlab function. Therefore there is no list or reference to a list with special characters included.

Furthermore, the dictionary used contains 10 000 words, and may make it hard for the user to get the password accepted, due to the variation of words such as *"ap", "il"*. This can be solved by improving/changing the dictionary and the words it contains, or implementing checks that excludes these types of words while reading from the file. The dictionary was downloaded from: `https://www.mit.edu/~ecprice/wordlist.10000`, and can be found in appendix A in the assignment folder.

List of Passwords

It is important to acknowledge the rules and policies declared in the assignment when looking at the table of accepted and rejected passwords. The assignment dictates that one policy, *"Cannot be the same as, or contain parts of, the old password"*, is mandatory. This changed to also including the password length, after consulting with professor Mudasir. This means that, as long as these two mandatory policies are met, and as long as the new password get a weakness score above 50%, the new password will be allowed. Evidently, looking at the table in appendix B, this does not make for a good enforcement of the policies, as pretty weak passwords are accepted. However, this can easily be changed in the script by changing the if-statements.

Challenges

The biggest challenge for this assignment was to understand how the password script was supposed to work and how it was going to be graded. I spent more than 24 hours trying to understand how the policies where meant to be implemented and why only one was mandatory, discussing with other students and emailing professor Mudasir. The same goes for the grading and how much each part declared in the assignments was weighted. I do not believe that the intention of the assignment was to spend more time understanding and analysing the assignment document, than actually programming and implementing the policies in the script.