# Project 0: Forgot Your Password?

This project is an introduction to writing simple scripts for computer security tasks.

## Overview

TODO: Write a script to generate passwords using a given wordlist and constraints.

You're stuck in quarantine but you've forgotten your Netflix password! How will you survive without binging The Office for the 5th time?! You have a good idea of what the password might be (since you use a similar password for everything, contrary to good computer security practices), but none of the common variations seem to be working. You could just reset your password, but you're a programmer and you have a better idea: what if you write a script to generate possible passwords based on words that you usually use?

## Constraints

1. You have a short list of words that might compose the password (given here):
   a. michigan, hackers, security, password
2. You always include a 2-digit number in your passwords.
3. The last character of the password is either ! or ?.
4. The password is all lowercase.
5. The script must generate a text file (.txt) of potential passwords separated by newlines.
6. The text file must contain a maximum of 10,000 passwords.
7. You're free to use any language, but Python, C++, and Java work best.
8. Submit your generated text file to the Security Team GitHub repository in the **Project 0** directory on the **dev** branch. Title your file `firstname_lastname_pass.txt`. Make sure not to submit your script! (See **Help** if you're new to Git and GitHub)
9. Message **@Justin Hutchins** on Slack that you've submitted and find out if you generated the correct password!

## Help

1. Examples of correctly generated passwords:
   a. michiganhackers20!
   b. 21password!
   c. security00?
2. There is some luck to generating the correct password, so even a great script might fail in certain cases. However, thinking creatively and making educated guesses about additional constraints increases your chances.

3. Hint: Generalize your script as much as possible. Being able to change parameters easily will help to generate better passwords in less time.
4. You might want an ASCII table for reference.
5. Steps for adding your text file to the Security Team GitHub repository:
    a. Make sure you've downloaded git.
    b. `git clone https://github.com/michiganhackers/security_2021.git`
    c. `git checkout dev`
    d. Write your script and text file in the Project 0 directory.
    e. `git add firstname_lastname_pass.txt`
    f. `git commit -m "Adding generated password file"`
    g. `git push`
    h. Make sure you don't add the script file!
6. This file and all other Security Team files exist in the GitHub repo on the **master** branch.
7. If you have any other questions, message **@Justin Hutchins** on Slack!