LAB 3
Password Cracking
Due before lab on 9/28 for Thursday lab and 9/29 for Friday lab

In this lab we will be cracking passwords. You will be given a list of password hashes and you must determine the corresponding plain text password for each hash. All of the hashes in this lab were hashed using SHA256.

In addition, you may **NOT** use any password cracking tool to do this lab.
You must write your own password cracker to use.
It can be done in whatever language you feel comfortable with (I suggest Python)

You should at least implement a brute-force and a dictionary attack.
Additional attack types may be necessary to find all passwords

Types of passwords to look for
- English words (with both lowercase and uppercase letters)
  - Eggplant, waterfall, kAngaRoO
- 2 words (no spaces, some words may be capitalized)
  - computerScreen, FootballHead, bluecactus
- Common passwords
- Random strings (up to 6 characters)
- Long english words (11 - 26 characters)
- English words with trailing numbers and symbols (up to 4)
  - nerd123!
- English words with letters replaced
  - 1337 h@ck0r

Deliverables
- Your password cracking program source code
- A README for compiling/running your program
- A file named **passwords.txt** which should contain all of the passwords that you have found and their corresponding hashes in the following format. If a password it not found, just include the hash followed by a blank.

  <hash>:<password>
  <hash>:

- All deliverables should be uploaded to canvas

Grade: 50 points for the program, 50 points for passwords (1 point per password)