Python Practice for Exam

Tasks

1. Write a program that generates random passwords according to the following guidelines.

    a. Ask the user for the length of the password.

    b. Ask the user for the complexity of the password.

        i. Complexity I: Only numbers.

        ii. Complexity II: Numbers and letters (upper and lower).

        iii. Complexity III: Numbers, letters, and special characters.

    c. Print the generated password to the terminal.

2. Write a program that asks the user for a start IPv4 address and end IPv4 address. Generate a list of all the IP addresses in between and save them into a file.

3. Write a function that takes a number and returns True if the number is prime and False if it is not. Your goal is to do it by using as little iterations as possible. Make sure to count the iterations it took to check the number.

4. Write a script that takes a file with text and check the following in the text. You can use the hhgttg.txt file.

    a. What is the most common word in the file? (Ignore case)

    b. What is the 5 most common letters in the file? (Letters only, no spaces or any other special characters)

5. Write a script that asks the user for an IP address, or a range of IP addresses and prints back the IP addresses that are up. You can use either socket or scapy libraries.

6. Write a script that asks the user for a single IP address and check which ports are open on that IP address. Print the results to the terminal. You can use either socket or scapy libraries.

Advanced Tasks

The following tasks are a little more complicated than the previous ones. The tasks might require some additional research.

1. Write a game of Tic Tac Toe for two human players. Make sure your program checks who won the game.

2. Write a script that performs ARP poisoning on the local network. If you are not familiar with ARP poisoning, perform research.