Challenge: Typecast Impersonator

Objective

The goal of this challenge is to impersonate a user that has a unique typing profile for some specified text. To be able to successfully impersonate a user, you will need to type the specified text just as the user would, including replicating KHTs (key hold times) and KITs (key interval times). Obviously, this is really only realistically possible by implementing a conflation of what you have learned from class lectures and hands-on sessions related to keystroke dynamics.

You will be provided with a obfuscated Python program (both Python 2 and Python 3 versions for your convenience) that will randomly select text (a short sentence) and a typing profile. The typing profile includes the features (keys and key combinations), and the KHTs and KITs that correspond to the features. Note that the text and typing profile changes every time the precompiled Python program is executed.

It is suggested that you execute the obfuscated Python program in one terminal window and your solution (a Python program) in a separate terminal window. Once the precompiled Python program is executed, you will be prompted to press **Enter** when you are ready. This will give you time to modify your solution with the details of the text and typing profile. When ready, you will have three seconds before a popup window appears. This popup window must have focus as you are typing the text. So, run the obfuscated code in **terminal #1**, run your code in **terminal #2**, press Enter in **terminal #1**, and make sure the popup window has **focus** before your program "types."

Hint

Set a five second delay before your solution begins typing the text sample. This will allow you to change focus to the terminal window of the obfuscated Python program and subsequently press **Enter**, allowing the popup window to appear and have focus before your program begins typing the text. Remember that the text typed must be terminated with **Enter** (i.e., type the text and press **Enter** to signal that the text is finished).

Prerequisites

Your VM requires following libraries/utilities, so obfuscated Python program can run on Linux Mint:

    (1) Pip: `sudo apt install python3-pip`
    (2) Numpy: `sudo pip3 intall numpy`
    (3) Tkinter: `sudo apt install python3-tk`

When you think you have successfully completed the challenge, send **secret passphrase and the time it was obtained** to your **team text channel** and @ prof.

Once you are done, **submit compressed folder with following files on Moodle**:

(1) A pdf document that provides: **(a)** the secret passphrase and the time when it was obtained; **(b)** thorough documentation of your team process as you proceeded through the challenge, including each team member contributions;

(2) The python code that you used to complete the challenge; and

(3) Any other scripts that you created to assist you (if applicable)

You will be graded on how well:

(1) Your team's Python code is written (i.e., does it work, is it well commented and easy to follow, does it have good coding style) (65%: 55% for correctness, 10% for style/comments);

(2) Your document details your path to successfully "type" the specified profile(s), and how thoroughly each of the members of your team documents their role in the challenge (30%);

(3) You submit the required files (5%).

GOOD LUCK!