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The purpose of this project is to address the issue of online malware, specifically ones containing keyloggers. The idea is that by creating a program similar to how malware one might be, it would allow programmers to come up with solutions and firewalls to protect against these kinds of attacks. In the same way you use part of the venom to make the antidote, we would use our own versions of malware to protect against potential threats. The program itself prompts the user to enter information as they might on a website or something similar. At the same time, there is a keylogger active that tracks every keystroke made by the user and outputs it to a separate text file saved to the computer. To track the users keystrokes I use the pynput plug-in and import the keyboard. In order to solve the dilemma of running the program and keylogger at the same time, I implemented threading which runs the keylogger on a separate thread to track the user's keystrokes while simultaneously prompting them to input information. There are some limitations of the program, namely that it is entirely shell based. A future improvement would see the user prompted with a more realistically looking website or possibly urgent looking pop up to more accurately simulate malware. The following is the pseudocode for my program:

- Import threading for running multiple things
- Import keyboard for keyboard input listening
- Definition: converting and storing key presses
    - Try: convert key to character and store in log
    - Except: if special key, store special key
    - Append character to file
    - If: key is ESC, terminate keylog
- Definition: start keylogger
    - Add keyboard listener
    - Start listening
- Definition: gather user info
    - Get user name
        - Check if all letters
    - Get user age
        - Check if integer
    - Get address
        - Check if alphanumeric
    - Get SSN
        - Check if digits
    - Store info in dictionary
- Definition: main function
    - Print welcome message
    - Call start keylogger function

        - Call start gather user info function
        - Print ending message and display data collected
- Call main function