1. Team details: Clearly state the names and netids of your team members (there are 2 of you).
    a. Jahnavi Manchana, jm2582
    b. Krish Jetly, kj432
2. Collaboration: Who did you collaborate with on this project? What resources and refer-ences did you consult? Please also specify on what aspect of the project you collaborated or consulted.
    a. Collaborated with Krish Jetly on this project. We referred to the python libraries while working on step 4. We read about the encode and decode methods. We also read about the swapcase before using it in the code. Here's the link to the website we referred to: https://docs.python.org/3/library/stdtypes.html#string-methods
3. What did you observe after running step 2 above? Can you explain why you see what you see?
    a. What we observed was that the process of what happens is interchanging, meaning that the order of processes that are finished change with each run of the program. This is due to the fact that you have multiple threads running and without the sleep statements they are all running at the same time meaning that one can finish a process faster than another and display it first.
4. Is there any portion of your code that does not work as required in the description above? Please explain.
    a. No, there isn't any part of the code that does not work as required in the description. We made sure to follow instructions and tested the functionality of the code up to step 5.
5. Did you encounter any difficulties? If so, explain.
    a. Yes we encountered a few difficulties. We forgot to decode the information that was given from the client while working on step 4. This caused a few errors but we were able to resolve it once we realized what the issue was. Additionally, we were struggling to make the client wait between each request while working on step 5. We also struggled to get the server to close when the client closed. We were able to resolve these issues as well.
6. What did you learn from working on this project? Add any interesting observations not otherwise covered in the questions above. Be specific and technical in your response. Contact the course staff on Piazza if you have any questions.
    a. We learned client-server architecture and socket programming in Python from working on this project. We gained hands-on experience creating sockets where the server listens for connections while the client initiates communication. We learned how to use encode() and decode(). We also discovered that we can control the amount of information the client sends by requiring the client to wait for a response from the server before transmitting more data. This approach allows me to selectively provide only the information I want, effectively limiting the data sent to the server at any given time. As a result, the server is not overwhelmed with excessive information, preventing undesired outputs.