*CPSC441 Assignment 2 User Manual* - use a combination of TCP and UDP data transfer services to implement client-server programs (in Java) that provide different services to users.

## Files:

- Master.java
- Client.java
- Echo.java \* (does not make any change, returns the same string)
- Reverse.java \* (reverses all characters)
- Lower.java \* (makes all characters lowercase)
- Upper.java \* (makes all characters uppercase)
- Caesar.java \* (applies a Caesar shift of 2)
  Yours.java \* (simply adds "Ahoi!" to the beginning of every string, as one pirate might
- speak!)
- \* = microserver

## To run:

- 1. have all files in a directory, then compile with "javac \*.java"
- 2. run the six microservers first with "java \*\*\*\*", where \*\*\*\* represents the name of the microserver (i.e. Echo, Reverse, Lower, Upper, Caesar, Yours)
- 3. run the master server with "java Master" it will be listening on the localhost IP address and port 8080.
- 4. run client side with "java Client x.x.x.x 8080", where x.x.x.x represents the IP address that is running the master server code.
- 5. Use the user interface accordingly.

Disclaimer: There are no known bugs as far as I know, at the time of writing this report.

The application runs as intended, outputs are as required.

There is a 10 second timeout period set for the microservers.

This program has not been checked for security flaws or with very big inputs.

Bonus: Not attempted