Overview:

This document will explain the usage of the Python programs designed to send data between the base station and rover (with a Raspberry Pi). Both will be connected by Wifi as a proof of concept.

Server:

The server program should be launched on a computer connected to the same Wifi network as the Raspberry Pi.

- Launch the program
- It will prompt the user with “Server socket connected” when the connection process has finished
- The prompt “Waiting for data” will appear once it will begin waiting for a message on the socket.
- Messages from the client will be printed in the terminal as soon as they appear
- The program will close the connection socket as soon as “exit” is received from the client.
- The program will prompt “Server socket disconnected” and finish running.

Client:

The client program should be launched on the raspberry pi being used by the rover

- Launch the program
- It will prompt the user with “Client socket connected” when the connection process has finished
- The prompt “Sending message:” will appear right before the program sends “SAMPLE MESSAGE” to the server using the socket
- It will then prompt “Sending message:” a second time and send “exit” to the server application.
- The program will close the connection socket after both messages are sent
- The program will prompt “Client socket disconnected” and finish running.

Future Extensions:

- Rewrite the initial interface so that a port can be selected manually? May be convenient for testing purposes.
    - Idea: upon launch, prompt the user for desired IP and port for socket connection
- Rewrite the client testing so that the user can feed in whatever data wants to be sent
    - Idea: Have the client program wait for input and send what the user inputs
    - Will make it easier to test