Program Assignment Submission Guidelines:
Generally speaking, you will be asked to submit the following types of files on Canvas (NO zip files):

1. Source code
2. .pcap file saved from WireShark (if required)
3. Screenshots in .pdf format (see "good example for screenshots")
4. README file (C programs only. See "Format of README file")
5. Other (if required) e.g. document answering questions based on Wireshark trace

Sometimes, the assignment will also ask for a paper copy of one or more of the above documents. Hand this in during the first class on or after due date. Alternatively, please bring to Dr Thomson's office (GITC 4305). If not available, slip under the office door. Do NOT send email.

Program Source Files:

- Client and server programs must be named *client.py* and *server.py* respectively
- Include name, UCID and section in comments at top of source file
- Cite references inline, as applicable. For example, if you have leveraged code from some source to perform a certain function such as converting an 8-byte integer to network byte order, cite that source in comments with the used function. To take a trivial example, if you search and copy (even modified) the code for using for-in loop in python like:

  ```
  for x in range(0, 3):
      print "Show: %d" % (x)
  ```

  You should add the comment inline in the code citing the reference as follows:

  ```
  # for-in loop from: https://wiki.python.org/moin/ForLoop
  for x in range(0, 3):
      print "Show: %d" % (x)
  ```

Things you MUST do:

1. Python programmers must use **Python 3**
2. Use **low-level** socket library for sending and receiving messages (no protocol libraries)
3. Input parameters must be supported on the command-line when program is instantiated, not read in via user input when program is running (for use with scripting)
4. Write **portable** code. In particular :
   a) IP addresses and ports must be entered in via the command-line and must not be hard-coded in your program (defaults are ok that can be overridden by the command-line), e.g. Use 127.0.0.1 for the loopback address, rather than a program that runs only on a hard-coded IP address such as 192.168.x.x.
   b) Filenames must work in the context of the current working directory. Do not submit programs with absolute filenames hard-coded for your file system e.g. /usr/jsmith/filename.txt

5. Test your code before submission
6. Examine the wireshark .pcap file and verify it demonstrates that program is working
7. Check that all files are submitted, and hand in paper copies as requested
8. Include references consulted in inline comments in your code

Things you MUST NOT do:

1) Use libraries that implement the protocols on your behalf.
   a) For example, in an assignment to send and receive HTTP messages, you should NOT be using http libraries to implement the messages for you. You must program the messages yourself using the low-level socket library
2) Hard-coded IP addresses and ports
3) Hard-coded absolute file names
4) User-entered input parameters, except on command-line
5) Convert source code to other file extension. i.e. hello.py -> hello.doc
6) Compress any file.
7) Submit corrupt file.
8) Submit somebody else's work as yours
9) Hard-code results. For example

   The main code we want:

```
for (i = 1; i <= 4; i++) {
    printf("%d", i);
}
```

   The fake, hard coded result:

```
printf("1");
printf("2");
printf("3");
printf("4");
```

9. Late submission without permission.

Academic Integrity

If academic integrity standards are not upheld, no credit is given. This includes copying of program, quiz or wireshark.pcap file from any source, or hard-coding of results in your program.