Jordan University of Science & Technology
Department of Network Engineering and Security
NES416- Network Programming
Programming Assignment 3

Due Date: see course website

Goal:

Print the default values of socket options in a UNIX/Linux environment, and practice setting some options

Description:

In this programming assignment, you are required to print the default values of **ALL** the socket options supported in your machine. For that regard, you can adapt the program listed in figure 7.3 of the textbook. Also your program need to print the operating system's name, release and version. (see the man page of the **uname()** system call).

In order to practice setting socket options, you are required to change the values of the receive low-water mark and the send low-water mark of a TCP socket (SO_RCVLOWAT and SO_SNDLOWAT). Your program should change these values to something entered by the user, and then report the new values into the screen. **Your input values must male sense.**

The output of your program should first display the name of your operating system, release and version. Then, you need to display the name of the option, and its default value for all options. Furthermore, if the option is not supported, you need to indicate that also. At the end you should ask users to enter values for the receive low-water mark and the send low-water mark for a TCP socket, modify them, and display the new values on the screen. An example showing only the option setting might look like:

```
Prompt$ Please enter new values for the receive low-water mark and the
send low-water mark for TCP:

xx yy (where xx yy are user input such that xx is the send low-water mark
and yy is the receive low-water mark)

Modified send low-water mark (TCP): xx

Modified receive low-water mark (TCP): yy
```

Submission:

For this assignment, **screenshot of your solution is very important**. You are required to submit whose name is your student ID whose components are:

1. Compilation command screenshot
2. OS name, release and version screenshot
3. All output related to options default values and option modification

Hints:

- ☐ DO NOT use the header file “unp.h” from the book
- ☐ Your programs should be compiled and run without any single error or warning.
- ☐ **Your input values for the low-water mark values must make sense**
- ☐ **Comment and error-check you code**