CSUS, College of Engineering and Computer Science
Department of Computer Science
CSC 138 – Computer Network and Internet

Socket Programming Assignment 4 – ICMPpinger

Goal: Practice makes perfect! Socket programming assignments are to help you review and apply your conceptual knowledge from this class.

Attention: Code plagiarism is absolutely **NOT** allowed! Please prepare for a **demonstration** of running your program in front of the instructor/grader and answer their questions.

Instructions: Please develop your own Ping application in Python. Your application will use ICMP. You will only need to write the client side of the program, as the functionality needed on the server side is built into almost all operating systems. If you prefer C or Java implementation, that's OK. If you choose to do so, the caveat is that there is more help if you do it in Python. **Please run your code on your own computer, as it needs administrator privilege**. For this assignment, the **textbook**'s **companion Web site** provides the skeleton code for your client. Your job is to complete the code and test your client.

Example Commands in Snapshots:

```
D:\Workspace\csc138\icmpping>python icmpping.py
Pinging 172.217.11.78 using Python:

Reply from 172.217.11.78: bytes=36 time=15.0001055ms TTL=51
Reply from 172.217.11.78: bytes=36 time=13.0000115ms TTL=51
Reply from 172.217.11.78: bytes=36 time=13.0000115ms TTL=51
Reply from 172.217.11.78: bytes=36 time=13.0000115ms TTL=51
Reply from 172.217.11.78: bytes=36 time=13.9999395ms TTL=51
Reply from 172.217.11.78: bytes=36 time=13.0000115ms TTL=51
Reply from 172.217.11.78: bytes=36 time=13.0000115ms TTL=51
Reply from 172.217.11.78: bytes=36 time=19.9999815ms TTL=51
```

Snapshot of running the python code locally

Deliverable: An **electronic submission** of lab report should be submitted to Canvas before the deadline. You should include both your **source code** (could be a source file or a screenshot) and at least **one screenshot** that can help you demonstrate your work: *the screenshot for the execution of source code in terminal (similar as above snapshot)*. Code plagiarism is absolutely **NOT** allowed! Please also prepare for a **demonstration** of running your program in front of the instructor/grader and answer their **questions** (which are about your code). You grade will be based on both the report and your performance during demonstration.

Requirement: The report will all be evaluated based on the following grading criteria.

Report Correctness, Completeness, Clarity	20%+15%+15%
Demonstration Correctness, Completeness, Question	20%+15%+15%