

University of St Andrews School of Computer Science

CS2003 — Internet and the Web — 2020/21

Tutorial 1: Introduction to networking

Date: Week 2: 24-25 Sep 2020

1. Explain the meaning of the following key network concepts (words in **bold**):
 - a) **protocol** : give some examples of commonly used Internet protocols.
 - b) **message** : give an example of a generic message format and some more specific names for messages.
 - c) **layered model** and **layer interface**
 - d) **encapsulation** : sketch an example using IP and TCP.
2. Write the code (with comments) for an *echo* protocol (port 7) client in Java. Use your host server as a server to connect to and test your client.
3. What is the difference between a socket opened by a client and that opened by a server? Discuss this in terms of the Java classes *Socket* and *ServerSocket*.
4. Give as many significant differences between client and server systems as you can think of. Be prepared to explain your suggestions.
5. Finally, make sure that you have registered on the PeerWise system following the instructions in the separate handout. Create one question covering the topics from week 1, and tag this question with the tag “week-1”. You should also try to answer at least one question with the same tag. Your tutor will pick a question at random during the tutorial and you can go through it together as a tutorial group.

(Thanks to Saleem Bhatti and Colin Allison)