Week 2/3 Tutorial

Q1: Client-server and peer-to-peer
What are some network applications that you use, and for each, do you think they are built using a client-server or peer-to-peer arrangement?

Q2: Channel capacity
“\(A\) noiseless 4-kHz channel is sampled every 1msec. What is the maximum data rate?”

[Tanenbaum, 4th ed, Ch. 2 Q 2]

Q3: Telstra vs NBN
“A regional telephone company has 10 million subscribers. Each of their telephones is connected to a central office by a copper twisted pair. The average length of these twisted pairs is 10km. How much is the copper in the local loops worth? Assume that the cross section of each strand is a circle 1mm in diameter, the density of the copper is 9.0 grams/cm\(^3\), and that copper sells for 3 dollars per kilogram.”

[Tanenbaum, 4th ed, Ch. 2 Q 19]

Q4: Kurose and Ross, Chapter 1, Problem 7

Q5: Kurose and Ross, Chapter 1, Problem 8

Q6: Kurose and Ross, Chapter 1, Problem 13