COMP90007 Internet Technologies

Week 7 Workshop

Semester 2, 2019

Question 1

Six stations, A through F, communicate using the MACA protocol. Is it possible that two transmissions take place simultaneously? Explain your answer.

Question 2

If there are *n* independent paths between two nodes in a network, and the probability that an individual path is working is *p*, what is the probability of these two nodes being connected? Assume path failures are independent.

Hint: first try to calculate what is the probability that all paths have failed

Question 3

A network on the Internet has a subnet mask of 255.255.240.0. What is the maximum number of hosts that it can handle?

Question 4

IPv6 uses 16 bytes addresses. If a block of 1 million addresses is allocated every picosecond, how long will the addresses last?

Question 5

A router an entry in its table that can be represented with mask as 135.46.56.0/21. What is the maximum number of hosts that this network can represent?

Question 6

What are the benefits and disadvantages of Transparent fragmentation in Network Layer?