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ELEC3500 – Telecommunication Network   Python Web Socket Assignment
Prof. Duy Ngo   October 18, 2024

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1 Questions

1. Considering the functionality of this simple proxy server, identify and discuss at least three significant limitations of your proxy server. (6 Marks)

2. How could you implement potential improvements into this script to overcome these limitations? A flowchart or pseudocode may help to illustrate your answer. (6 marks)

3. Is the proxy server using UDP or TCP sockets? How can you tell? What other protocols are involved?(2 marks)

4. In this question, you will put together much of what you have learned about Internet protocols. Suppose you buy a brand new computer, connect it to Ethernet, and want to download a Web page. What are all the protocol steps that take place, starting from powering on your PC to getting the Web page? Assume there is nothing in our DNS or browser caches when you power on your PC. (Hint: the steps include the use of Ethernet, DHCP, ARP, DNS, TCP, and HTTP protocols.) Explicitly indicate in your steps how you obtain the IP and MAC addresses of a gateway router. (6 marks)