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part2_udp_server.py, part2_udp_client.py, part2_gpt_udp_server.py, part2_gpt_udp_client.py

       For this part of the project, we sent packets of a overall size of 100 kilobytes and computed the throughput. To create data of size 100 kilobytes, we randomly added letters to a string up to length 100 * 1024, thus resulting in a data of size 100 kilobytes. When sending the packets, we realyzed that UDP does not allow packets of a certain size to be sent in the network. Therefore, we sent packets of size 1 bytes, resulting in a total of 1024 * 100 packets. To calculate the throughput we kept track of the size and time taken for each packet receive by the server. The overall size and arrival time of packets are updated whenever a new packet is received. Once the overall size reach 1024 * 100, the throughput is computed then sent to the client. In our trial, the throughput computed was: 12.98 kilobytes per second.

Concerning Chatgpt implementation, on the client side, it creates a data of size 1024 * 100 and sends chunks of that data to the server. The server starts the counter before receiving any packets and ends it when all packets were received. The throughput is then computed and sent to the client. ChatGpt implementation displayed a value of about 6.60 kilobytes per second.

ChatGPT link: https://chat.openai.com/share/3a90be77-4c34-42dc-a4bf-0290fb019726