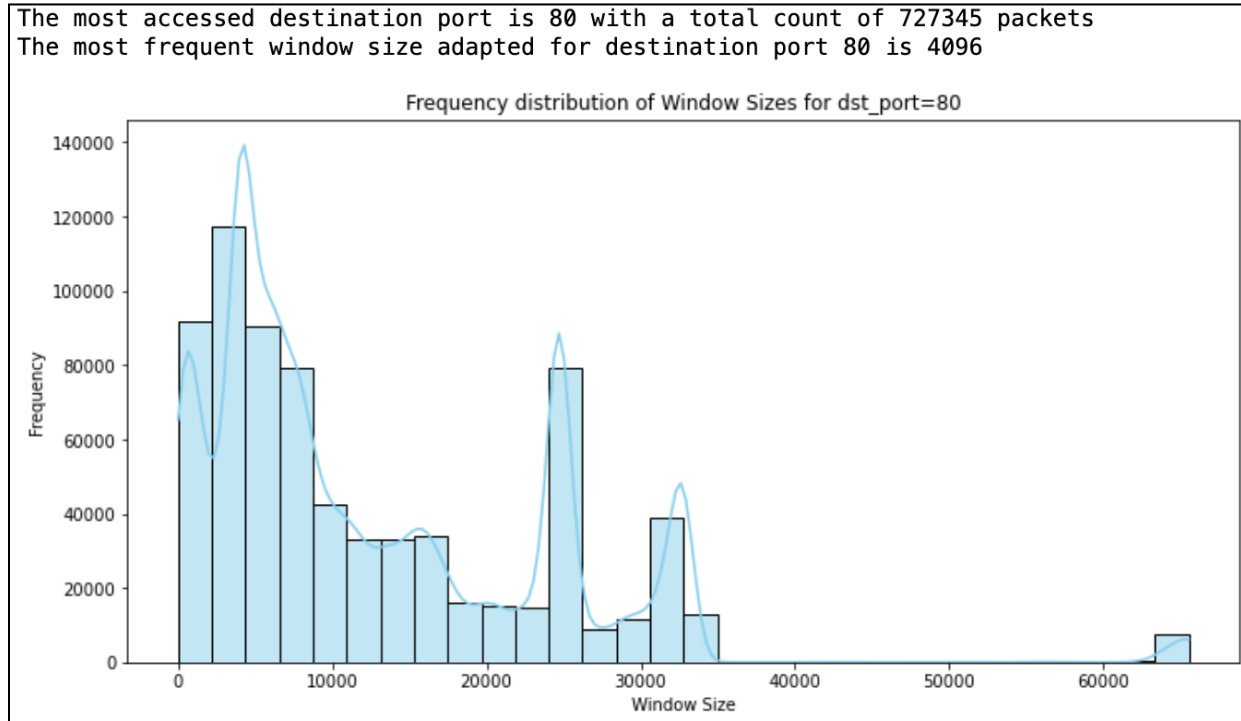# CSDS 425: Computer Networks

Extension of Project #4

Name: Aditi Mondal , Case Network ID: axm1849

Figure -1: Frequency distribution of Window Sizes for destination ports = 80

While checking the output for the TCP packet printing mode, when I observed the destination ports in the output file, the most accessed destination port was found to be port 80 with the total number of packets sent = 727345 **which suggests that a significant portion of the network traffic is using HTTP,** [can also refer, Figure - 2.] . This indicates many requests going out to web servers, that is, high web traffic. I then checked the frequency distribution of the TCP window size for this port to infer about the network dynamics, as shown in the above figure. The prevalent window sizes ranging from 2500 to 4500 indicate the typical TCP flow control parameters for the majority of web traffic to port 80. From this we can say, under regular circumstances, the network operates with a moderate amount of unacknowledged data. The occurrence of higher window sizes exceeding 23000, possibly indicate instances where the network can handle larger volumes of data before requiring an acknowledgment. This could be because of higher bandwidth availability. On the other hand, the absence of window sizes in the range of 40,000 to 60,000 and the negligible frequency of window sizes exceeding 60,000 shows rare instances where exceptionally large data transfers are happening and such window sizes have been used to prevent potential network congestion. **These observations suggest a dynamic and adaptive network for the HTTP traffic which mostly sends smaller-to-moderate sized data packets.**

	dst_port	Packets
0	80	727345
1	22	457383
2	443	360467
3	35438	99022
4	35436	59288
5	16955	53343
6	28472	50737
7	993	45123
8	25	42973
9	36169	42007

Figure - 2: Top 10 most used destination ports in the 425.trace file

Refer to:

pythonscript.py