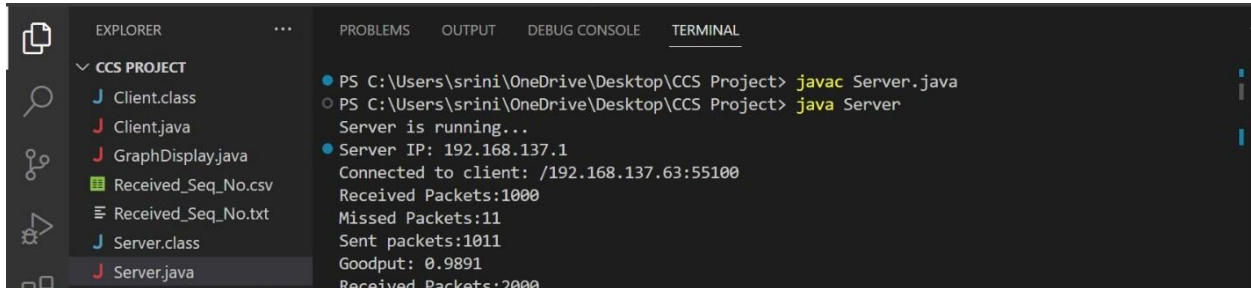


CS 258 Project

Done By: Srinivas Rao Chavan, Prathamesh Dixit

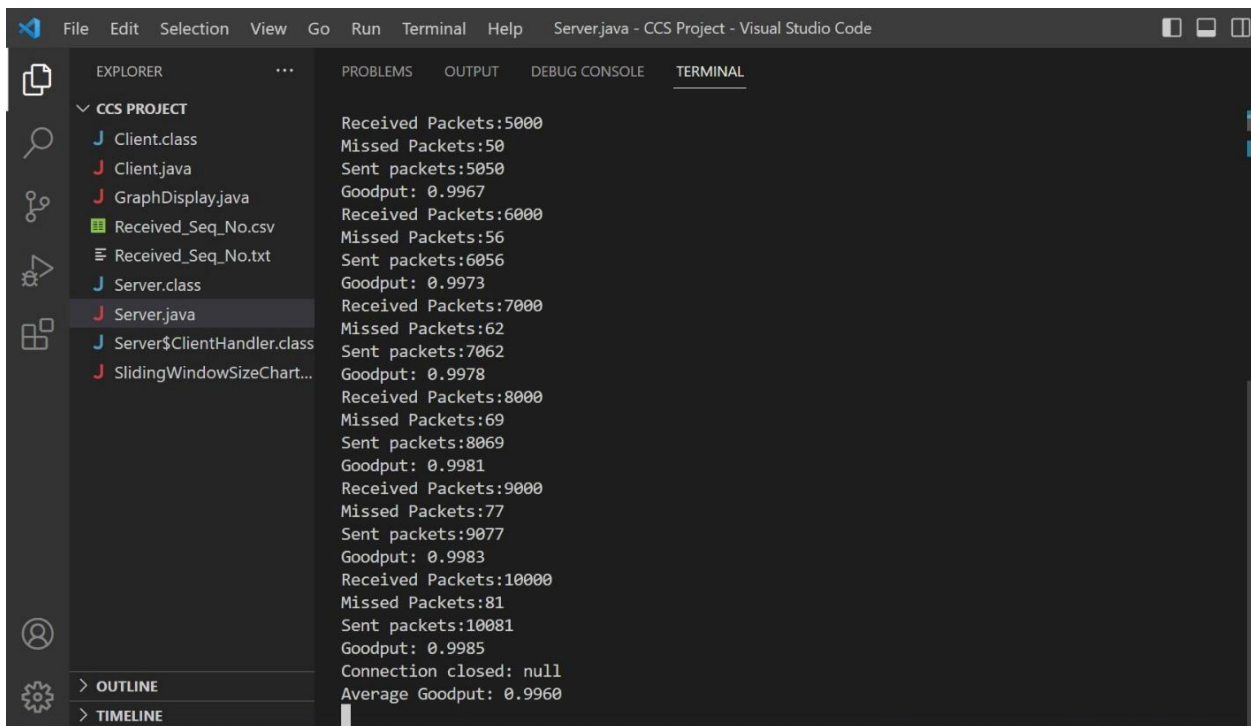
1. Sender and Receiver IP addresses:



```
EXPLORER  PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL
CCS PROJECT
Client.class
Client.java
GraphDisplay.java
Received_Seq_No.csv
Received_Seq_No.txt
Server.class
Server.java

PS C:\Users\sринi\OneDrive\Desktop\CCS Project> javac Server.java
PS C:\Users\sринi\OneDrive\Desktop\CCS Project> java Server
Server is running...
Server IP: 192.168.137.1
Connected to client: /192.168.137.63:55100
Received Packets:1000
Missed Packets:11
Sent packets:1011
Goodput: 0.9891
Received Packets:2000
```

2. Number of Packets Sent and Received:



```
File  Edit  Selection  View  Go  Run  Terminal  Help  Server.java - CCS Project - Visual Studio Code
EXPLORER  PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL
CCS PROJECT
Client.class
Client.java
GraphDisplay.java
Received_Seq_No.csv
Received_Seq_No.txt
Server.class
Server.java
Server$ClientHandler.class
SlidingWindowSizeChart...

Received Packets:5000
Missed Packets:50
Sent packets:5050
Goodput: 0.9967
Received Packets:6000
Missed Packets:56
Sent packets:6056
Goodput: 0.9973
Received Packets:7000
Missed Packets:62
Sent packets:7062
Goodput: 0.9978
Received Packets:8000
Missed Packets:69
Sent packets:8069
Goodput: 0.9981
Received Packets:9000
Missed Packets:77
Sent packets:9077
Goodput: 0.9983
Received Packets:10000
Missed Packets:81
Sent packets:10081
Goodput: 0.9985
Connection closed: null
Average Goodput: 0.9960
```

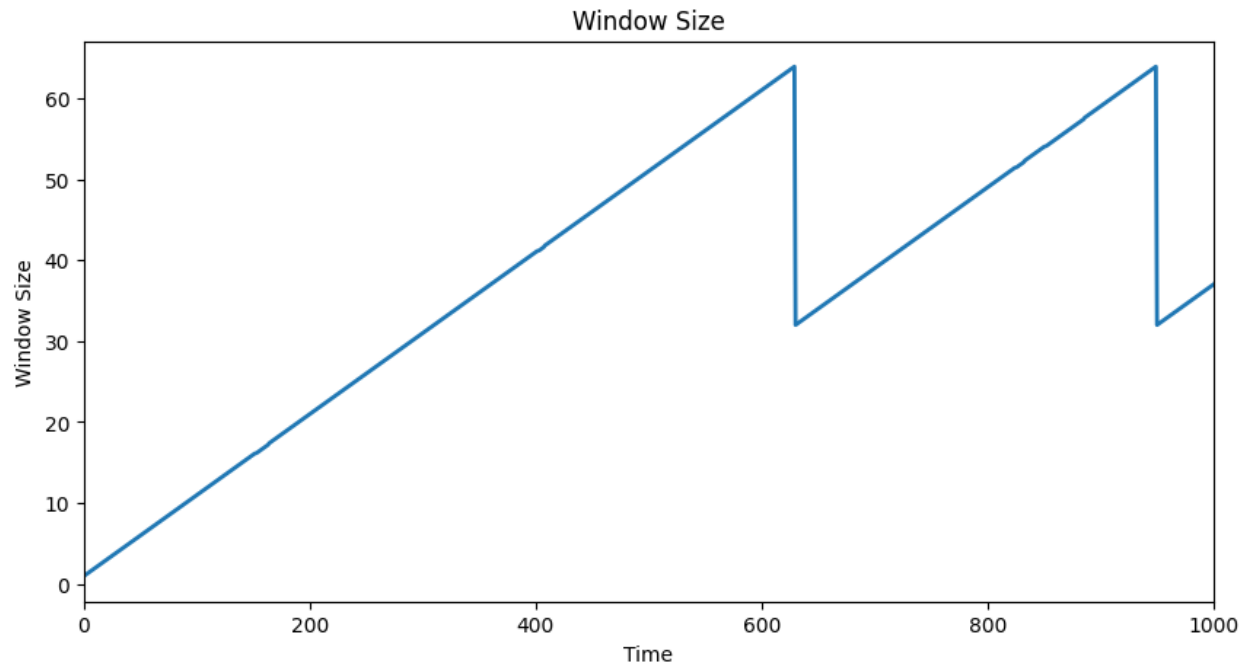
3. Goodput:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

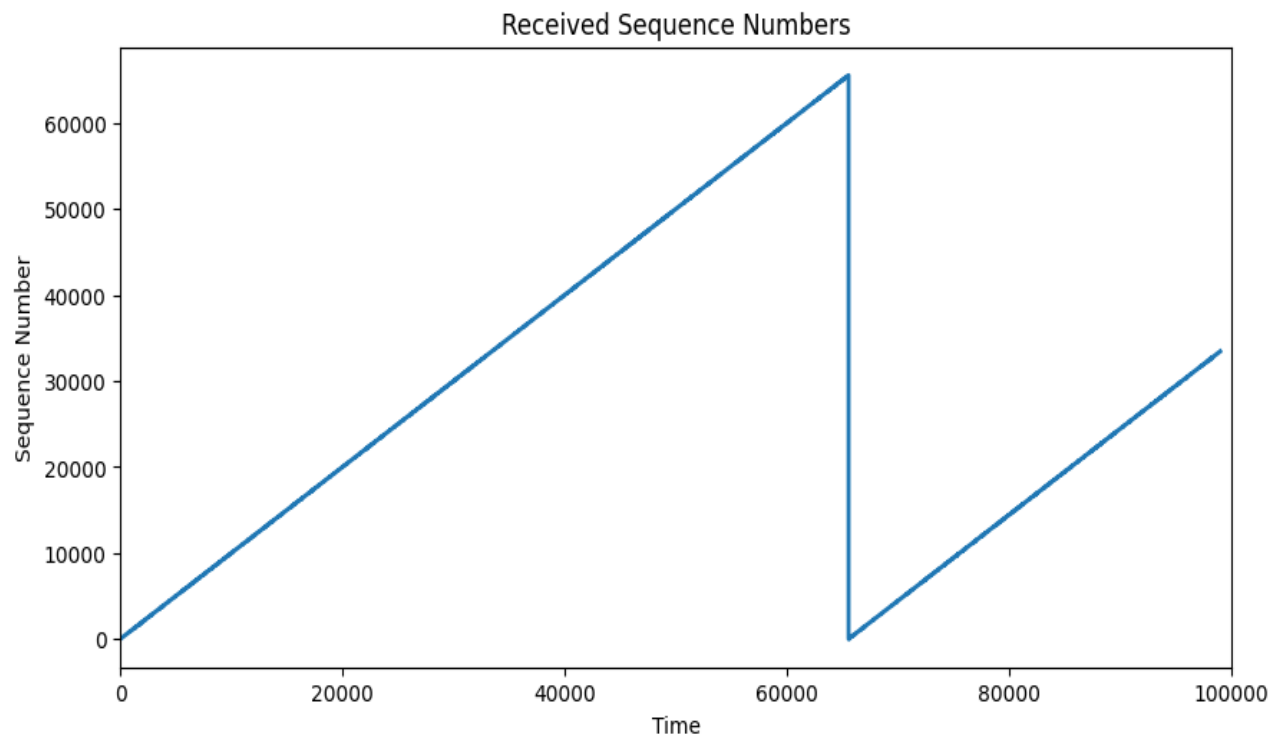
Received Packets:5000
Missed Packets:50
Sent packets:5050
Goodput: 0.9967
Received Packets:6000
Missed Packets:56
Sent packets:6056
Goodput: 0.9973
Received Packets:7000
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Goodput: 0.9983
Received Packets:10000
Missed Packets:81
Sent packets:10081
Goodput: 0.9985
Connection closed: null
Average Goodput: 0.9960
```

Graphs:

1. TCP Sender and Receiver Window Size over time in X axis:



2. TCP Sequence number Received over time in the X-axis:



3. TCP Sequence number Dropped over time in the X-axis:

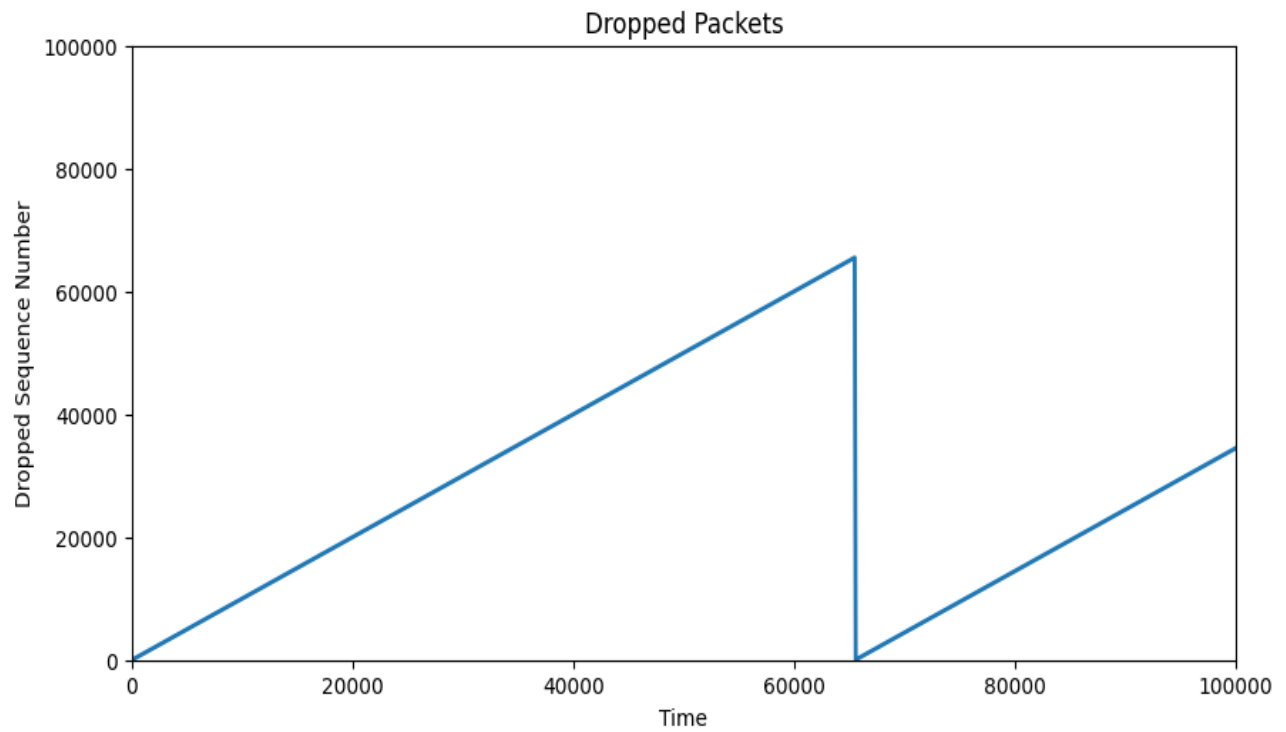


Table:

#Retransmission	No. of Packets		
1	0		
2	0		
3	0		
4	0		
29	1		
38	0		
39	0		
40	2		
41	0		
42	1		
43	0		
44	0		
45	0		
46	1		
47	1		
48	0		
49	1		
50	0		
51	2		