

212051007

213118458

Part A

מילון מילים - 3 ג' (א)

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~ Part A ~

• డివ్య ఫ్రీజెడ్ రెఫ్రి.

Part C-2 (c) Cubic - f(x) = x^3 + 3x^2 - 2x + 1

reno " 37

The diagram illustrates the mapping between different types of ports:

- socket port** (red) maps to **IP port** (blue).
- IP port** (blue) maps to **TCP port** (green).
- TCP port** (green) maps to **port numbers** (black).

Arrows indicate the direction of the mappings.

```
● mayzen@ubuntu:~/Downloads/study/reshatot - ex3$ ./TCP_Sender 5060 127.0.0.1 reno
start of the sender
num argument is: 4
connected to Receiver
The IPv4 address is: 127.0.0.1
Do you want to send the file again? y/n
y
send succeeded
```

QUIZ %

טבָּא אַגְּוִיל

destination Port

כדי של רישום גיבובים יתאפשר גם בדיקת אובייקטים ופיזיון שבדוחם יופיע לפחות 0% מ-10 סלילים.

כט א' טראנסקריפציית

```
gcc -o TCP_Sender TCP_Sender.c
hadarfrol2@hadarfrol2-VirtualBox:~/Desktop/ComNetwork---Ex3-main$ ./TCP_Receiver 5060 reno
starting Reciever...
Bind() success
Waiting for incoming TCP-connections...
Sender connected, beginning to recieve file...
Received exit message from sender
    *Statistics* የዚያ ምንስ ማለፈ ስነዎች
The time is: 16928.73 ←
Average bandwidth: 619406.14 bytes/second
Total Average Bandwidth: 0.47 bytes/second ← ነገሮች ማለፈ ምንስ ደንብዎች
Reciever end
```

801

21 पृष्ठा २/

tcp.port == 5000										
No.	Time	Source	Destination	Protocol	Length	Info				
6	1.17.1081831	127.0.0.1	127.0.0.1	TCP	44	33154 - 50606 [SYN]	Seq=0 Win=65495 Len=0 MSS=65495 SACK_PERM=1 TSrc=1572733399 TSrcr=1572733399 WS=128			
7	1.17.1096728	127.0.0.1	127.0.0.1	TCP	74	30809 - 33154 [SYN]	Seq=0 Win=65495 ACK=1 Seq=1 Win=65483 Len=0 MSS=65495 SACK_PERM=1 TSrc=1572733399 TSrcr=1572733399 WS=128			
8	1.17.1097151	127.0.0.1	127.0.0.1	TCP	66	33154 - 50606 [ACK]	Seq=1 Ack=1 Win=65536 Len=0 TSrc=1572733399 TSrcr=1572733399			
9	1.17.1098396	127.0.0.1	127.0.0.1	TCP	32807	33154 - 50606 [ACK]	Seq=1 Ack=1 Win=65536 Len=32741 TSrc=1572733400 TSsrc=1572733400			
10	1.17.1098400	127.0.0.1	127.0.0.1	TCP	66	33154 - 50606 [ACK]	Seq=1 Ack=1 Win=65536 Len=32741 TSrc=1572733400 TSsrc=1572733400			
11	1.17.10961228	127.0.0.1	127.0.0.1	TCP	578	50606 - 33154 [PSH, ACK]	Seq=1 Ack=32742 Win=40768 Len=312 TSrc=1572733400 TSsrc=1572733400 [TCP segment of a reasembled message]			
12	1.1861320665	127.0.0.1	127.0.0.1	SIP	32807	Continuation				
13	1.1861092469	127.0.0.1	127.0.0.1	TCP	66	30809 - 33154 [ACK]	Seq=513 Ack=5483 Win=48768 Len=0 TSrc=1572733400 TSsrc=1572733400			
14	1.1861092473	127.0.0.1	127.0.0.1	TCP	32807	33154 - 50606 [ACK]	Seq=513 Ack=5483 Win=48768 Len=0 TSrc=1572733400 TSsrc=1572733400			
15	1.1861715538	127.0.0.1	127.0.0.1	TCP	32294	50606 - 33154 [PSH, ACK]	Seq=513 Ack=98224 Win=48768 Len=32228 TSrc=1572733401 TSsrc=1572733401			
16	1.1891457242	127.0.0.1	127.0.0.1	SIP	32807	Continuation				
17	1.1891647419	127.0.0.1	127.0.0.1	TCP	16434	Continuation				
18	1.1891647423	127.0.0.1	127.0.0.1	TCP	32807	33154 - 50606 [ACK]	Seq=130965 Ack=49111 Win=16640 Len=32741 TSrc=1572733401 TSsrc=1572733401			
19	1.189262127	127.0.0.1	127.0.0.1	SIP	16436	Continuation				
20	1.189325586	127.0.0.1	127.0.0.1	SIP	32807	Continuation				
21	1.189363681	127.0.0.1	127.0.0.1	TCP	66	50606 - 33154 [ACK]	Seq=65481 Ack=196447 Win=196480 Len=0 TSrc=1572733402 TSsrc=1572733401			
22	1.1893919118	127.0.0.1	127.0.0.1	SIGCOMP	32807	Continuation				
23	1.1894121271	127.0.0.1	127.0.0.1	SIP	32807	Continuation				
24	1.1894172588	127.0.0.1	127.0.0.1	TCP	66	50606 - 33154 [ACK]	Seq=65481 Ack=261929 Win=458496 Len=0 TSrc=1572733402 TSsrc=1572733402			
25	1.1895776895	127.0.0.1	127.0.0.1	SIP	32807	33154 - 50606 [ACK]	Seq=65481 Win=384 Len=32741 TSrc=1572733402 TSsrc=1572733402			
26	1.1898444364	127.0.0.1	127.0.0.1	TCP	32807	33154 - 50606 [ACK]	Seq=65481 Ack=261929 Win=458496 Len=0 TSrc=1572733402 TSsrc=1572733402			
27	1.1898445247	127.0.0.1	127.0.0.1	SIP	32807	Continuation				
28	1.189852177	127.0.0.1	127.0.0.1	TCP	32807	33154 - 50606 [ACK]	Seq=65481 Ack=3272111 Win=720384 Len=0 TSrc=1572733402 TSsrc=1572733402			
29	1.189849983	127.0.0.1	127.0.0.1	SIP	32807	Continuation				
30	1.189851632	127.0.0.1	127.0.0.1	TCP	66	50606 - 33154 [ACK]	Seq=65481 Ack=392893 Win=982272 Len=0 TSrc=1572733402 TSsrc=1572733402			
31	1.189851636	127.0.0.1	127.0.0.1	SIP	32807	Continuation				
32	1.189252133	127.0.0.1	127.0.0.1	SIP	32807	Continuation				
33	1.189252155	127.0.0.1	127.0.0.1	TCP	66	30606 - 33154 [ACK]	Seq=65481 Ack=458375 Win=1242488 Len=0 TSrc=1572733402 TSsrc=1572733402			
34	1.189276886	127.0.0.1	127.0.0.1	SIP	32807	Continuation				
35	1.189276890	127.0.0.1	127.0.0.1	SIP	32807	Continuation				
36	1.189662037	127.0.0.1	127.0.0.1	TCP	66	50606 - 33154 [ACK]	Seq=65481 Ack=556599 Win=15606176 Len=0 TSrc=1572733403 TSsrc=1572733403			
37	1.189826778	127.0.0.1	127.0.0.1	TCP	6554	33154 - 50606 [ACK]	Seq=556599 Ack=65481 Win=32256 Len=65483 TSval=1572733403 TSsrc=1572733402			
38	1.1891232735	127.0.0.1	127.0.0.1	SIP	65549	Continuation				
39	1.1891232739	127.0.0.1	127.0.0.1	TCP	32807	33154 - 50606 [ACK]	Seq=65481 Ack=687565 Win=1768064 Len=0 TSrc=1572733403 TSsrc=1572733403			
40	1.111176588	127.0.0.1	127.0.0.1	SIP	65549	Continuation				
41	1.111710935	127.0.0.1	127.0.0.1	SIP	65549	Continuation				
42	1.111173286	127.0.0.1	127.0.0.1	TCP	66	30606 - 33154 [ACK]	Seq=65481 Ack=818511 Win=2030880 Len=0 TSrc=1572733404 TSsrc=1572733404			
43	1.111173288	127.0.0.1	127.0.0.1	SIP	65549	Continuation				
44	1.122723136	127.0.0.1	127.0.0.1	SIP	65549	Continuation				
45	1.122749284	127.0.0.1	127.0.0.1	TCP	66	50606 - 33154 [ACK]	Seq=65481 Ack=949947 Win=229109 Len=0 TSrc=1572733404 TSsrc=1572733404			
46	1.113942664	127.0.0.1	127.0.0.1	TCP	6554	33154 - 50606 [ACK]	Seq=949947 Ack=65481 Win=32256 Len=65483 TSval=1572733405 TSsrc=1572733402			

unit 5

No.	Time	Source	Destination	Protocol	Length	Info
1	0.0000000000	127.0.0.1	127.0.0.1	TCP	74	49852 - 5060 [SYN] Seq=0 Win=65495 Len=0 MSS=65495 SACK_PERM=1 TStamp=866680541 TSecr=866680541
2	0.0000000000	127.0.0.1	127.0.0.1	TCP	68	5060 - 49852 [PSH, ACK] Seq=1 Ack=1 Win=65483 Len=0 MSS=65495 SACK_PERM=1 TStamp=866680541 TSecr=866680541
3	0.0005935444	127.0.0.1	127.0.0.1	SIP	32807 Continuation	
4	0.0002620696	127.0.0.1	127.0.0.1	TCP	66	5060 - 49852 [ACK] Seq=1 Ack=32742 Win=48768 Len=0 TStamp=866680541 TSecr=866680541
5	0.0002724417	127.0.0.1	127.0.0.1	SIP	578 Continuation	
6	0.000301754	127.0.0.1	127.0.0.1	TCP	32807 49852 - 5060 [PSH, ACK] Seq=32742 Ack=1 Win=65536 Len=32741 TStamp=866680541 TSecr=866680541	
7	0.000376023	127.0.0.1	127.0.0.1	TCP	68	5060 - 49852 [ACK] Seq=32742 Ack=1 Win=65536 Len=32741 TStamp=866680541 TSecr=866680541
8	0.0003811162	127.0.0.1	127.0.0.1	TCP	68	5060 - 49852 [ACK] Seq=513 Ack=65483 Win=48768 Len=0 TStamp=866680541 TSecr=866680541
9	0.0005988694	127.0.0.1	127.0.0.1	SIP	32807 Continuation	
10	0.000628259	127.0.0.1	127.0.0.1	SIP	32294 Continuation	
11	0.011109888	127.0.0.1	127.0.0.1	TCP	32807 49852 - 5060 [PSH, ACK] Seq=98224 Ack=32741 Win=32896 Len=32741 TStamp=866680542 TSecr=866680542	
12	0.011123463	127.0.0.1	127.0.0.1	SIP	16436 Continuation	
13	0.299232864	127.0.0.1	127.0.0.1	SIP	32807 Continuation	
14	0.299324484	127.0.0.1	127.0.0.1	TCP	16436 5060 - 49852 [PSH, ACK] Seq=49111 Ack=130965 Win=65536 Len=16370 TStamp=866680750 TSecr=866680750	
15	0.2994545283	127.0.0.1	127.0.0.1	TCP	32807 49852 - 5060 [PSH, ACK] Seq=163768 Ack=65481 Win=32256 Len=32741 TStamp=866680750 TSecr=866680750	
17	0.299639404	127.0.0.1	127.0.0.1	TCP	68	5060 - 49852 [ACK] Seq=65481 Ack=196447 Win=32742 Len=0 TStamp=866680750 TSecr=866680750
18	0.299666909	127.0.0.1	127.0.0.1	SIP	32807 Continuation	
19	0.299834194	127.0.0.1	127.0.0.1	SIP	32807 Continuation	
20	0.299874756	127.0.0.1	127.0.0.1	TCP	32807 49852 - 5060 [PSH, ACK] Seq=294670 Ack=65481 Win=32256 Len=32741 TStamp=866680750 TSecr=866680750	
21	0.299919643	127.0.0.1	127.0.0.1	SIP	32807 Continuation	
22	0.299926584	127.0.0.1	127.0.0.1	TCP	68	5060 - 49852 [ACK] Seq=65481 Ack=261929 Win=589440 Len=0 TStamp=866680751 TSecr=866680751
23	0.210027590	127.0.0.1	127.0.0.1	TCP	68	5060 - 49852 [ACK] Seq=65481 Ack=327411 Win=851328 Len=0 TStamp=866680751 TSecr=866680751
24	0.210108235	127.0.0.1	127.0.0.1	SIP	32807 Continuation	
25	0.210146376	127.0.0.1	127.0.0.1	SIP	32807 Continuation	
26	0.210170304	127.0.0.1	127.0.0.1	SIP	32807 Continuation	
27	0.210189918	127.0.0.1	127.0.0.1	TCP	68	5060 - 49852 [ACK] Seq=65481 Ack=392893 Win=1113216 Len=0 TStamp=866680751 TSecr=866680751
28	0.210190018	127.0.0.1	127.0.0.1	TCP	68	5060 - 49852 [ACK] Seq=65481 Ack=458375 Win=1375232 Len=0 TStamp=866680751 TSecr=866680751
29	0.2101401304	127.0.0.1	127.0.0.1	SIP	32807 [TCP Previous segment not captured] Continuation	
30	0.210466484	127.0.0.1	127.0.0.1	TCP	32807 49852 - 5060 [ACK] Seq=523657 Ack=65481 Win=32256 Len=32741 TStamp=866680751 TSecr=866680751	
31	0.210515875	127.0.0.1	127.0.0.1	SIGCOMP	32807	
32	0.210580174	127.0.0.1	127.0.0.1	TCP	32807 49852 - 5060 [ACK] Seq=589339 Ack=65481 Win=32256 Len=32741 TStamp=866680751 TSecr=866680751	
33	0.210643202	127.0.0.1	127.0.0.1	TCP	32807 49852 - 5060 [PSH, ACK] Seq=622088 Ack=65481 Win=32256 Len=32741 TStamp=866680751 TSecr=866680751	
34	0.2106552222	127.0.0.1	127.0.0.1	TCP	78 [TCP Window Update] 5060 - 49852 [ACK] Seq=65481 Ack=458375 Win=1506176 Len=0 TStamp=866680752 TSecr=866680752	
35	0.2109069513	127.0.0.1	127.0.0.1	TCP	78 [TCP Window Update] 5060 - 49852 [ACK] Seq=65481 Ack=458375 Win=1637210 Len=0 TStamp=866680752 TSecr=866680752	
36	0.210985232	127.0.0.1	127.0.0.1	TCP	78 [TCP Window Update] 5060 - 49852 [ACK] Seq=65481 Ack=458375 Win=1768064 Len=0 TStamp=866680752 TSecr=866680752	
37	0.211014724	127.0.0.1	127.0.0.1	TCP	32807 [TCP Retransmission] 49852 - 5060 [ACK] Seq=458375 Ack=65481 Win=32256 Len=32741 TStamp=866680751 TSecr=866680751	
38	0.211054956	127.0.0.1	127.0.0.1	TCP	68	5060 - 49852 [ACK] Seq=65481 Ack=2161248 Len=0 TStamp=866680752 TSecr=866680752
39	0.211264283	127.0.0.1	127.0.0.1	TCP	32807 49852 - 5060 [ACK] Seq=654821 Ack=65481 Win=32256 Len=32741 TStamp=866680752 TSecr=866680752	
40	0.211306466	127.0.0.1	127.0.0.1	SIP	32807 Continuation	

רַיִם גְּדוּלָה כַּתֵּב בְּזֶה וְבְּזֶה סְעִירָה מִקְרָב.

tcp.port == 5060								
No.	Time	Source	Destination	Protocol	Length	Info		
204 3	5:54:45.5115	127.0.0.1	127.0.0.1	TCP	78	5060 .. 35006 [ACK] Seq=83046 Ack=8388609 Win=9 Tsvl=867302795 Tscr=867302742 SLE=8387761		
205 4	5:59:06.1465	127.0.0.1	127.0.0.1	TCP	65549	[TCP ZeroWindow] 35000 .. 5000 [ACK] Seq=1306099 Ack=83046 Win=9 Len=0 Tsvl=867303851 Tscr=867303851		
206 4	5:59:10.93298	127.0.0.1	127.0.0.1	TCP	66	5066 .. 35006 [ACK] Seq=83046 Ack=8454092 Win=9 Len=0 Tsvl=867303851 Tscr=867303851		
207 4	5:59:11.38164	127.0.0.1	127.0.0.1	TCP	65549	[TCP ZeroWindow] 35000 .. 5000 [ACK] Seq=8454092 Ack=83046 Win=9 Len=0 Tsvl=867303851 Tscr=867303851		
208 4	5:59:12.04254	127.0.0.1	127.0.0.1	SIP	65549	[TCP ZeroWindow] Continuation		
209 4	5:59:36.38857	127.0.0.1	127.0.0.1	TCP	65549	[TCP ZeroWindow] 35000 .. 5000 [ACK] Seq=850508 Ack=83046 Win=0 Len=50483 Tsvl=867303852 Tscr=867303852		
210 4	6:02:56.01365	127.0.0.1	127.0.0.1	TCP	65549	[TCP ZeroWindow] 35000 .. 5000 [ACK] Seq=850508 Ack=83046 Win=0 Len=50483 Tsvl=867303886 Tscr=867303886		
211 4	6:02:56.01404	127.0.0.1	127.0.0.1	TCP	66	5066 .. 35006 [ACK] Seq=850508 Ack=8716024 Win=0 Len=0 Tsvl=867303886 Tscr=867303851		
212 4	6:25:19.4562	127.0.0.1	127.0.0.1	SIP	65549	[TCP ZeroWindow] Continuation		
213 4	6:25:52.25482	127.0.0.1	127.0.0.1	SIP	65549	[TCP ZeroWindow] Continuation		
214 4	6:25:58.41469	127.0.0.1	127.0.0.1	SIP	65549	[TCP ZeroWindow] Continuation		
215 4	6:25:58.56189	127.0.0.1	127.0.0.1	TCP	65549	[TCP ZeroWindow] 35000 .. 5000 [ACK] Seq=8912473 Ack=83046 Win=0 Len=65483 Tsvl=867303886 Tscr=867303886		
216 4	6:26:00.71310	127.0.0.1	127.0.0.1	TCP	65549	[TCP ZeroWindow] 35000 .. 5000 [ACK] Seq=8912473 Ack=83046 Win=0 Len=65483 Tsvl=867303886 Tscr=867303886		
217 4	6:26:00.71341	127.0.0.1	127.0.0.1	TCP	66	5066 .. 35006 [ACK] Seq=8912473 Ack=8716024 Win=0 Len=0 Tsvl=867303886 Tscr=867303851		
218 4	8:09:34.94335	127.0.0.1	127.0.0.1	TCP	78	5066 .. 35006 [ACK] Seq=83046 Ack=9043439 Win=0 Len=0 Tsvl=867304154 Tscr=867303886 Tscr=86716024		
219 4	8:09:37.72326	127.0.0.1	127.0.0.1	SIP	65549	[TCP ZeroWindow] Continuation		
220 4	8:09:38.67473	127.0.0.1	127.0.0.1	TCP	65549	[TCP ZeroWindow] 35000 .. 5000 [ACK] Seq=108922 Ack=83046 Win=0 Len=65483 Tsvl=867304154 Tscr=867304154		
221 4	8:09:39.19744	127.0.0.1	127.0.0.1	SIGCOMP	65549	[TCP ZeroWindow] Continuation		
222 4	8:09:39.66978	127.0.0.1	127.0.0.1	TCP	65549	[TCP ZeroWindow] 35000 .. 5000 [ACK] Seq=9239888 Ack=83046 Win=0 Len=65483 Tsvl=867304154 Tscr=867304154		
223 4	8:09:40.17304	127.0.0.1	127.0.0.1	SIP	65549	[TCP ZeroWindow] Continuation		
224 4	8:09:41.11973	127.0.0.1	127.0.0.1	TCP	66	5066 .. 35006 [ACK] Seq=83046 Ack=9378854 Win=315776 Len=0 Tsvl=867304200 Tscr=867304154		
225 4	8:39:02.27665	127.0.0.1	127.0.0.1	SIP	65549	[TCP ZeroWindow] Continuation		
226 4	8:39:06.53803	127.0.0.1	127.0.0.1	TCP	65549	[TCP ZeroWindow] 35000 .. 5000 [ACK] Seq=9436337 Ack=83046 Win=0 Len=65483 Tsvl=867304200 Tscr=867304200		
227 4	8:39:06.73914	127.0.0.1	127.0.0.1	SIP	65549	[TCP ZeroWindow] Continuation		
228 4	8:39:06.84159	127.0.0.1	127.0.0.1	SIP	65549	[TCP ZeroWindow] Continuation		
229 4	9:08:56.71939	127.0.0.1	127.0.0.1	TCP	66	5066 .. 35006 [ACK] Seq=83046 Ack=9632786 Win=184832 Len=0 Tsvl=867304246 Tscr=867304200		
230 4	9:08:57.01101	127.0.0.1	127.0.0.1	TCP	65549	[TCP ZeroWindow] Continuation		
231 4	9:08:58.04669	127.0.0.1	127.0.0.1	TCP	66	5066 .. 35006 [ACK] Seq=9632786 Win=184832 Len=0 Tsvl=867304246 Tscr=867304200		
232 4	9:08:47.53599	127.0.0.1	127.0.0.1	TCP	65549	[TCP ZeroWindow] 35000 .. 5000 [ACK] Seq=9632786 Win=0 Len=0 Tsvl=867304246 Tscr=867304200		
233 4	9:09:48.14541	127.0.0.1	127.0.0.1	TCP	66	5066 .. 35006 [ACK] Seq=83046 Ack=9763759 Win=0 Tsvl=867304255 Tscr=867304255		
234 5	2:29:42.01489	127.0.0.1	127.0.0.1	SIP	53954	[TCP ZeroWindow] [TCP Window Full] Continuation		
235 5	4:54:52.72732	127.0.0.1	127.0.0.1	TCP	53954	[TCP ZeroWindow] [TCP Window Full] [TCP Retransmission] 35006 .. 5000 [PSH, ACK] Seq=9763752 Ack=83046		
236 5	4:54:52.89875	127.0.0.1	127.0.0.1	TCP	66	[TCP ZeroWindow] 35000 .. 5000 [ACK] Seq=83046 Ack=9817649 Win=0 Tsvl=867304306 Tscr=867304306		
237 5	4:54:53.01112	127.0.0.1	127.0.0.1	TCP	66	[TCP ZeroWindow] 35000 .. 5000 [ACK] Seq=83046 Ack=9817649 Win=0 Tsvl=867304305 Tscr=867304305		
238 5	4:54:53.75383	127.0.0.1	127.0.0.1	TCP	66	[TCP ZeroWindow] 35000 .. 5000 [ACK] Seq=83046 Ack=9817649 Win=0 Tsvl=867304305 Tscr=867304305		
239 6	5:59:49.06046	127.0.0.1	127.0.0.1	TCP	66	[TCP ZeroWindow] [TCP Keep-Alive] 35006 .. 5000 [ACK] Seq=9817649 Win=0 Len=0 Tsvl=867304306 Tscr=867304306		
240 6	6:59:49.22113	127.0.0.1	127.0.0.1	TCP	66	[TCP ZeroWindow] 35000 .. 5000 [ACK] Seq=83046 Ack=9817649 Win=0 Len=0 Tsvl=867304306 Tscr=867304306		
241 7	7:35:05.41318	127.0.0.1	127.0.0.1	TCP	66	[TCP ZeroWindow] [TCP Keep-Alive] 35006 .. 5000 [ACK] Seq=83045 Ack=9817649 Win=0 Len=0 Tsvl=867304661 Tscr=867304661		
242 7	7:63:29:06375	127.0.0.1	127.0.0.1	TCP	66	[TCP ZeroWindow] [TCP Keep-Alive] 35006 .. 5000 [ACK] Seq=9817639 Ack=83046 Win=0 Len=0 Tsvl=867304693 Tscr=867304693		
243 7	7:63:29:84634	127.0.0.1	127.0.0.1	TCP	66	[TCP ZeroWindow] 35000 .. 5000 [ACK] Seq=83046 Ack=9817649 Win=0 Len=0 Tsvl=867304693 Tscr=867304696		

לפנינו מופיעים נתונים של TCP-השלוחן, שמייצגים את תנועת ה-TCP בדרכו מארצנו לארצם.

כגון ב-

Reciever end

```
hadarfro12@hadarfro12-VirtualBox:~/Desktop/ComNetwork---Ex3-main$ ./TCP_Receiver 5060 reno
starting Reciever...
Bind() success
Waiting for incoming TCP-connections...
Sender connected, beginning to recieve file...
Received exit message from sender
      *Statistics*
The time is: 16442.67
Average bandwidth: 637716.50 bytes/second
Total Average Bandwidth: 0.49 bytes/second
Reciever end
```

בנוסף לנתונים שמצאנו בtcpdump, ניתן לראות נתונים נוספים על ה-reno.

לפנינו מופיעים נתונים של TCP-השלוחן, שמייצגים את תנועת ה-TCP בדרכו מארצנו לארצם.

לפנינו מופיעים נתונים של TCP-השלוחן, שמייצגים את תנועת ה-TCP בדרכו מארצנו לארצם.

Cubic 'ט' ↳ 37)

```

● mayrozen@ubuntu:~/Downloads/study/reshatot - ex3$ make
gcc -o TCP_Receiver TCP_Receiver.c
gcc -o TCP_Sender TCP_Sender.c
● mayrozen@ubuntu:~/Downloads/study/reshatot - ex3$ ls
Makefile          RUDP_API.c      RUDP_Receiver.c    TCP_Receiver      TCP_Sender
'Part A - reno 0% packet lost.pcapng'  RUDP_API.h      RUDP_Sender.c    TCP_Receiver.c  TCP_Sender.c
● mayrozen@ubuntu:~/Downloads/study/reshatot - ex3$ ./TCP_Receiver 5060 cubic
starting Receiver...
Bind() success
Waiting for incoming TCP-connections...
Sender connected, beginning to receive file...
Received exit message from sender
*Statistics*
The time is: 30229.33
Average bandwidth: 346873.72 bytes/second
Total Average Bandwidth: 0.26 bytes/second
Receiver end
● mayrozen@ubuntu:~/Downloads/study/reshatot - ex3$ 

```

```

● mayrozen@ubuntu:~/Downloads/study/reshatot - ex3$ ./TCP_Sender 5060 127.0.0.1 cubic
start of the sender
num argument is: 4
connected to Receiver
The IPv4 address is: 127.0.0.1
Do you want to send the file again? y/n
y
send succeeded

```

Receiver → Sender → IP → TCP → cubic → EX3

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tcp.port == 5000									
No.	Time	Source	Destination	Protocol	Length	Info	Seq#	Win	TSeq#
1	10.0.1.6391997200	127.0.0.1	127.0.0.1	TCP	74	3572 - 5060 [Syn]	Seq=0	Win=65495 Len=0	MSS=65495 SACK_PERM=1 TSeq=1572850616 TSer=1572850616 WS=128
2	10.0.1.6321420133	127.0.0.1	127.0.0.1	TCP	74	5666 - 3352 [SYN, ACK]	Seq=1	Ack=1 Win=65536 Len=0	TSeq=1572850616 TSer=1572850616 WS=128
3	8.18.6124223406	127.0.0.1	127.0.0.1	TCP	66	33522 - 5060 [ACK]	Seq=1	Ack=1 Win=65536 Len=0	TSeq=1572850616 TSer=1572850616
4	9.18.612491066	127.0.0.1	127.0.0.1	SIP	32807	Continuation			
5	10.18.612491066	127.0.0.1	127.0.0.1	TCP	66	33522 - 5060 [ACK]	Seq=1	Ack=1 Win=65536 Len=0	TSeq=1572850616 TSer=1572850616
6	11.18.612545126	127.0.0.1	127.0.0.1	SIP	32807	Continuation			
7	12.18.62559786	127.0.0.1	127.0.0.1	SIP	578	Continuation			
8	13.18.612594094	127.0.0.1	127.0.0.1	TCP	66	5666 - 33522 [ACK]	Seq=513	Ack=65483 Win=48768 Len=0	TSeq=1572850617 TSer=1572850617
9	14.18.612594094	127.0.0.1	127.0.0.1	TCP	66	5666 - 33522 [SYN]	Seq=514	Ack=65483 Win=48768 Len=0	TSeq=1572850617 TSer=1572850617
10	15.18.612594094	127.0.0.1	127.0.0.1	TCP	32807	3572 - 5060 [PSH]	Seq=514	Ack=65483 Win=65536 Len=3224	TSeq=1572850617 TSer=1572850617
11	16.18.612771175	127.0.0.1	127.0.0.1	TCP	32807	33522 - 5060 [PSH]	Seq=515	Ack=65483 Win=65294 Len=32741	TSeq=1572850617 TSer=1572850617
12	17.18.612771195	127.0.0.1	127.0.0.1	TCP	32807	33522 - 5060 [PSH]	Seq=516	Ack=98224 Win=32742 Win=32996 Len=32741	TSeq=1572850617 TSer=1572850617
13	18.18.612771195	127.0.0.1	127.0.0.1	TCP	66	5666 - 33522 [ACK]	Seq=517	Ack=32742 Win=139965 Len=0	TSeq=1572850617 TSer=1572850617
14	19.18.612771195	127.0.0.1	127.0.0.1	TCP	578	Continuation			
15	20.18.612899161	127.0.0.1	127.0.0.1	SIGCOMM	32807	33522 - 5060 [PSH]	Seq=518	Ack=32742 Win=139965 Len=0	TSeq=1572850617 TSer=1572850617
16	21.18.612999276	127.0.0.1	127.0.0.1	TCP	13378	5666 - 33522 [PSH]	Seq=519	Ack=33254 Win=163700 Win=196480 Len=13312	TSeq=1572850617 TSer=1572850617
17	22.18.612923045	127.0.0.1	127.0.0.1	TCP	32807	33522 - 5060 [PSH]	Seq=520	Ack=163700 Win=32741 Win=47872	TSeq=1572850617 TSer=1572850617
18	23.18.612923045	127.0.0.1	127.0.0.1	TCP	32807	33522 - 5060 [PSH]	Seq=521	Ack=163700 Win=32741 Win=47872	TSeq=1572850617 TSer=1572850617
19	24.18.612984625	127.0.0.1	127.0.0.1	SIP	32807	Continuation			
20	25.18.612990448	127.0.0.1	127.0.0.1	TCP	30780	5666 - 33522 [PSH]	Seq=46566	Ack=221918 Win=458496 Len=30720	TSeq=1572850617 [TCP segment of a reassembly]
21	26.18.613004956	127.0.0.1	127.0.0.1	SIP	32807	Continuation			
22	27.18.613014765	127.0.0.1	127.0.0.1	TCP	32807	33522 - 5060 [PSH]	Seq=294678	Ack=46566 Win=34569 Len=32741	TSeq=1572850617 TSer=1572850617
23	28.18.613014765	127.0.0.1	127.0.0.1	TCP	66	5666 - 33522 [ACK]	Seq=2977268	Ack=294678 Win=72090 Len=0	TSeq=1572850617 TSer=1572850617
24	29.18.613031151	127.0.0.1	127.0.0.1	SIP	32807	Continuation			
25	30.18.613034755	127.0.0.1	127.0.0.1	TCP	66	5666 - 33522 [ACK]	Seq=727268	Ack=306152 Win=982272 Len=0	TSeq=1572850617 TSer=1572850617
26	31.18.613054123	127.0.0.1	127.0.0.1	TCP	32807	33522 - 5060 [PSH]	Seq=392893	Ack=772268 Win=3840 Len=32741	TSeq=1572850617 TSer=1572850617
27	32.18.613054123	127.0.0.1	127.0.0.1	TCP	66	5666 - 33522 [ACK]	Seq=772268	Ack=425334 Win=124428 Len=0	TSeq=1572850617 TSer=1572850617
28	33.18.613075338	127.0.0.1	127.0.0.1	TCP	66	5666 - 33522 [ACK]	Seq=772268	Ack=425334 Win=124428 Len=0	TSeq=1572850617 TSer=1572850617
29	34.18.613091779	127.0.0.1	127.0.0.1	SIP	32807	Continuation			
30	35.18.613189657	127.0.0.1	127.0.0.1	TCP	66	5666 - 33522 [ACK]	Seq=772268	Ack=491116 Win=1506176 Len=0	TSeq=1572850617 TSer=1572850617
31	36.18.613190404	127.0.0.1	127.0.0.1	SIP	32807	Continuation			
32	37.18.613190404	127.0.0.1	127.0.0.1	SIP	32834	Continuation			
33	38.18.613193998	127.0.0.1	127.0.0.1	SIP	32834	Continuation			
34	39.18.613142633	127.0.0.1	127.0.0.1	TCP	66	5666 - 33522 [ACK]	Seq=772268	Ack=556652 Win=1768064 Len=0	TSeq=1572850617 TSer=1572850617
35	40.18.613154059	127.0.0.1	127.0.0.1	SIP	32834	Continuation			
36	41.18.613154059	127.0.0.1	127.0.0.1	TCP	66	5666 - 33522 [ACK]	Seq=772268	Ack=556652 Win=1768064 Len=0	TSeq=1572850617 TSer=1572850617
37	42.18.613347479	127.0.0.1	127.0.0.1	SIP	32834	Continuation			
38	43.18.613444253	127.0.0.1	127.0.0.1	TCP	66	5666 - 33522 [ACK]	Seq=772268	Ack=622188 Win=2030880 Len=0	TSeq=1572850617 TSer=1572850617
39	44.18.613456753	127.0.0.1	127.0.0.1	SIP	32834	Continuation			
40	45.18.613456753	127.0.0.1	127.0.0.1	TCP	32834	33522 - 5060 [PSH]	Seq=687724	Ack=772268 Win=3840 Len=32768	TSeq=1572850617 TSer=1572850617
41	46.18.613479233	127.0.0.1	127.0.0.1	SIP	32834	Continuation			

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No.	Time	Source	Destination	Protocol	Length	Info
1	0: 00:00:00:00:00	127.0.0.1	127.0.0.1	TCP	75	43634 - 5060 [SYN] Seq=0 Win=65495 Len=0 MSS=65495 SACK_PERM=1 TSval=2287712808 TSecr=2287712808 WS=128
2	0: 00:00:55:00:00	127.0.0.1	127.0.0.1	TCP	68	43634 - 5060 [SYN, ACK] Seq=1 Win=65483 Len=0 MSS=65495 SACK_PERM=1 TSval=2287712808 TSecr=2287712808
3	0: 00:00:55:00:00	127.0.0.1	127.0.0.1	TCP	68	43634 - 5060 [ACK] Seq=1 Win=65330 Len=0 TSval=2287712808 TSecr=2287712808
4	0: 00:03:31:03:16	127.0.0.1	127.0.0.1	SIP	32809	Continuation
5	0: 00:06:32:76:35	127.0.0.1	127.0.0.1	TCP	68	5069 - 43634 [ACK] Seq=1 Ack=32742 Win=48768 Len=0 TSval=2287712808 TSecr=2287712808
6	0: 00:06:35:54:28	127.0.0.1	127.0.0.1	SIP	32809	Continuation
7	0: 00:06:35:54:28	127.0.0.1	127.0.0.1	SIP	32809	Continuation
8	0: 00:06:45:27:88	127.0.0.1	127.0.0.1	TCP	68	5069 - 43634 [ACK] Seq=513 Ack=65483 Win=48768 Len=0 TSval=2287712808 TSecr=2287712808
9	0: 00:06:79:99:58	127.0.0.1	127.0.0.1	TCP	68	43634 - 5060 [ACK] Seq=65483 Ack=513 Win=65264 Len=0 TSval=2287712808 TSecr=2287712808
10	0: 00:06:82:41:44	127.0.0.1	127.0.0.1	TCP	32296	5069 - 43634 [PSH, ACK] Seq=513 Ack=65483 Win=65536 Len=3228 TSval=2287712809 TSecr=2287712809
11	0: 00:06:82:41:44	127.0.0.1	127.0.0.1	TCP	68	43634 - 5060 [ACK] Seq=65483 Ack=513 Win=65264 Len=0 TSval=2287712809 TSecr=2287712809
12	0: 00:18:86:77:07	127.0.0.1	127.0.0.1	SIP	32809	Continuation
13	0: 01:20:21:42:27	127.0.0.1	127.0.0.1	TCP	16438	5069 - 43634 [PSH, ACK] Seq=32741 Ack=130965 Win=196488 Len=16370 TSval=2287712809 TSecr=2287712809
14	0: 01:25:29:71:11	127.0.0.1	127.0.0.1	SIP	32809	Continuation
15	0: 01:25:29:71:11	127.0.0.1	127.0.0.1	SIP	32809	Continuation
16	0: 01:28:56:07:25	127.0.0.1	127.0.0.1	SIP	32809	Continuation
17	0: 01:29:29:84:44	127.0.0.1	127.0.0.1	SIGCOMM	32809	
18	0: 01:29:29:83:13	127.0.0.1	127.0.0.1	TCP	68	5069 - 43634 [ACK] Seq=65481 Ack=229188 Win=589440 Len=0 TSval=2287712809 TSecr=2287712809
19	0: 01:29:29:83:13	127.0.0.1	127.0.0.1	SIP	32809	Continuation
20	0: 01:32:15:28	127.0.0.1	127.0.0.1	TCP	68	5069 - 43634 [ACK] Seq=65481 Ack=229188 Win=589440 Len=0 TSval=2287712809 TSecr=2287712809
21	0: 01:32:15:28	127.0.0.1	127.0.0.1	SIP	32809	Continuation
22	0: 01:33:62:08	127.0.0.1	127.0.0.1	TCP	68	5069 - 43634 [ACK] Seq=65481 Ack=2294076 Win=851328 Len=0 TSval=2287712809 TSecr=2287712809
23	0: 01:39:19:08:08	127.0.0.1	127.0.0.1	SIP	32809	Continuation
24	0: 01:39:19:08:08	127.0.0.1	127.0.0.1	TCP	68	5069 - 43634 [ACK] Seq=65481 Ack=360152 Win=1113216 Len=0 TSval=2287712810 TSecr=2287712809
25	0: 02:00:51:97:77	127.0.0.1	127.0.0.1	SIP	32809	Continuation
26	0: 02:00:52:22:24	127.0.0.1	127.0.0.1	TCP	68	5069 - 43634 [ACK] Seq=65481 Ack=360152 Win=1113216 Len=0 TSval=2287712810 TSecr=2287712809
27	0: 02:03:03:01:00	127.0.0.1	127.0.0.1	TCP	68	5069 - 43634 [ACK] Seq=65481 Ack=426034 Win=1184240 Len=0 TSval=2287712810 TSecr=2287712810
28	0: 02:03:03:01:00	127.0.0.1	127.0.0.1	SIP	32809	Continuation
29	0: 02:06:07:02:73	127.0.0.1	127.0.0.1	TCP	68	5069 - 43634 [ACK] Seq=65481 Ack=426034 Win=1184240 Len=0 TSval=2287712810 TSecr=2287712809
30	0: 02:06:07:02:73	127.0.0.1	127.0.0.1	SIP	32809	Continuation
31	0: 04:07:41:94:12	127.0.0.1	127.0.0.1	TCP	68	5069 - 43634 [ACK] Seq=65481 Ack=426034 Win=1184240 Len=0 TSval=2287712810 TSecr=2287712810
32	0: 04:07:41:94:12	127.0.0.1	127.0.0.1	SIP	32809	Continuation
33	0: 04:08:21:72:37	127.0.0.1	127.0.0.1	TCP	68	5069 - 43634 [ACK] Seq=65481 Ack=589340 Win=1161608 Len=0 TSval=2287712813 TSecr=2287712813
34	0: 04:08:21:72:37	127.0.0.1	127.0.0.1	TCP	65551	43634 - 5060 [ACK] Seq=589340 Ack=65481 Win=32256 TSval=2287712813 TSecr=2287712818
35	0: 04:09:67:06:08	127.0.0.1	127.0.0.1	SIP	65551	Continuation
36	0: 04:09:67:06:08	127.0.0.1	127.0.0.1	TCP	68	5069 - 43634 [ACK] Seq=65481 Ack=720386 Len=1145216 TSval=2287712813 TSecr=2287712813
37	0: 05:06:05:07:74	127.0.0.1	127.0.0.1	SIP	65551	Continuation
38	0: 05:22:20:07:07	127.0.0.1	127.0.0.1	TCP	65551	43634 - 5060 [ACK] Seq=785789 Ack=65481 Win=32256 TSval=2287712813 TSecr=2287712818
39	0: 05:22:20:07:07	127.0.0.1	127.0.0.1	TCP	68	5069 - 43634 [ACK] Seq=65481 Ack=85122 Len=0 TSval=2287712813 TSecr=2287712813
40	0: 05:22:20:07:07	127.0.0.1	127.0.0.1	SIP	65551	Continuation
41	0: 05:22:20:07:07	127.0.0.1	127.0.0.1	TCP	68	5069 - 43634 [ACK] Seq=65481 Ack=85122 Win=22356 Len=0 TSval=2287712813 TSecr=2287712818

כעת גיבובו נאכזב מאריך TCP Reno - הנטה נאכזב מאריך TCP Reno.

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tcp.port == 5660									
No.	Time	Source	Destination	Protocol	Length	Info			
4	6.2.446744692	127.0.0.1	127.0.0.1	TCP	74	49298	-5660	[SYN] Seq=56549 Len=56 SACK_PERC=1 TSval=1161863290 TSecr=1161863292 WS=128	
5	6.2.448862393	127.0.0.1	127.0.0.1	TCP	74	49298	-5660	[SYN, ACK] Seq=1 Ack=565485 Len=56 SACK_PERC=1 TSval=1161863292 TSecr=1161863292	
6	6.2.449846184	127.0.0.1	127.0.0.1	TCP	66	49298	-5660	[ACK] Seq=1 Ack=1 Win=65536 Len=0 TSval=1161863292 TSecr=1161863292	
7	6.2.449252219	127.0.0.1	127.0.0.1	TCP	32867	49298	-5660	[ACK] Seq=1 Ack=1 Win=65536 Len=0 TSval=1161863292 TSecr=1161863292	
8	6.2.449268785	127.0.0.1	127.0.0.1	TCP	66	5066	-49298	[ACK] Seq=1 Ack=32742 Win=48768 Len=0 TSval=1161863292 TSecr=1161863292	
9	6.2.449313012	127.0.0.1	127.0.0.1	TCP	578	5066	-49298	[PSH, ACK] Seq=1 Ack=32742 Win=48768 Len=512 TSval=1161863292 TSecr=1161863292	
10	6.2.449456697	127.0.0.1	127.0.0.1	SIP	32867	Continuation			
11	6.2.449456700	127.0.0.1	127.0.0.1	TCP	66	5066	-49298	[ACK] Seq=513 Ack=56483 Win=48768 Len=0 TSval=1161863292 TSecr=1161863292	
12	6.2.450792582	127.0.0.1	127.0.0.1	TCP	32867	49298	-5660	[ACK] Seq=56483 Ack=513 Win=65624 Len=32741 TSval=1161863292 TSecr=117TCP seqm	
13	6.2.450916788	127.0.0.1	127.0.0.1	SIP	32294	Continuation			
14	6.2.451174786	127.0.0.1	127.0.0.1	SIGCOMP	32867				
15	6.2.451759759	127.0.0.1	127.0.0.1	TCP	16436	5066	-49298	[PSH, ACK] Seq=32741 Ack=139695 Win=196480 Len=10370 TSval=1161863294 TSecr=1161863294	
16	6.2.45137820	127.0.0.1	127.0.0.1	TCP	32867	49298	-5660	[ACK] Seq=139695 Ack=49111 Win=16640 Len=32741 TSval=1161863294 TSecr=1161863294	
17	6.2.451504766	127.0.0.1	127.0.0.1	SIP	32867	Continuation			
18	6.2.451598787	127.0.0.1	127.0.0.1	SIP	32867	Continuation			
19	6.2.451609825	127.0.0.1	127.0.0.1	TCP	32867	49298	-5660	[ACK] Seq=56481 Ack=49111 Win=16640 Len=32741 TSval=1161863295 TSecr=1161863295	
20	6.2.451609825	127.0.0.1	127.0.0.1	SIP	32867	Continuation			
21	6.2.451770476	127.0.0.1	127.0.0.1	TCP	32867	49298	-5660	[ACK] Seq=261929 Ack=49111 Win=16640 Len=32741 TSval=1161863294 TSecr=1161863294	
22	6.2.451780231	127.0.0.1	127.0.0.1	TCP	66	5066	-49298	[ACK] Seq=50481 Ack=294670 Win=851328 Len=0 TSval=1161863294 TSecr=1161863294	
23	6.2.451843699	127.0.0.1	127.0.0.1	TCP	32867	49298	-5660	[PSH, ACK] Seq=294670 Ack=49111 Win=16640 Len=32741 TSval=1161863294 TSecr=1161863294	
24	6.2.452054942	127.0.0.1	127.0.0.1	SIP	32867	Continuation			
25	6.2.452079039	127.0.0.1	127.0.0.1	TCP	32867	49298	-5660	[PSH, ACK] Seq=360152 Ack=49111 Win=16640 Len=32741 TSval=1161863295 TSecr=1161863294	
26	6.2.452333114	127.0.0.1	127.0.0.1	SIP	32867	Continuation			
27	6.2.452750826	127.0.0.1	127.0.0.1	TCP	66	5066	-49298	[ACK] Seq=56481 Ack=256364 Win=1375232 Len=0 TSval=1161863295 TSecr=1161863295	
28	6.2.452789897	127.0.0.1	127.0.0.1	TCP	32867	49298	-5660	[PSH, ACK] Seq=425634 Ack=49111 Win=16640 Len=32741 TSval=1161863295 TSecr=1161863294	
29	6.2.452825809	127.0.0.1	127.0.0.1	TCP	32867	49298	-5660	[ACK] Seq=458375 Ack=49111 Win=16640 Len=32741 TSval=1161863295 TSecr=1161863294	
30	6.2.452831825	127.0.0.1	127.0.0.1	TCP	66	5066	-49298	[ACK] Seq=56481 Ack=49111 Win=16637210 Len=0 TSval=1161863296 TSecr=1161863295	
31	6.2.453234231	127.0.0.1	127.0.0.1	TCP	32867	49298	-5660	[PSH, ACK] Seq=49111 Ack=49111 Win=16640 Len=32741 TSval=1161863296 TSecr=1161863294	
32	6.2.453234231	127.0.0.1	127.0.0.1	SIP	65549	Continuation			
33	6.2.453801777	127.0.0.1	127.0.0.1	SIP	65549	Continuation			
34	6.2.454082688	127.0.0.1	127.0.0.1	TCP	65549	49298	-5660	[ACK] Seq=564823 Ack=49111 Win=40576 Len=65483 TSval=1161863297 TSecr=1161863294	
35	6.2.454096398	127.0.0.1	127.0.0.1	TCP	66	5066	-49298	[ACK] Seq=56481 Ack=720306 Len=0 TSval=2063232 Len=0 TSval=1161863297 TSecr=1161863296	
36	6.2.454379668	127.0.0.1	127.0.0.1	SIP	65549	Continuation			
37	6.2.454698756	127.0.0.1	127.0.0.1	SIP	65549	Continuation			
38	6.2.45714362	127.0.0.1	127.0.0.1	TCP	65549	49298	-5660	[ACK] Seq=50481 Ack=851272 Win=2063232 Len=0 TSval=1161863297 TSecr=1161863294	
39	6.2.45714362	127.0.0.1	127.0.0.1	TCP	65549	49298	-5660	[ACK] Seq=851272 Ack=49111 Win=40576 Len=65483 TSval=1161863298 TSecr=1161863294	
40	6.2.457577207	127.0.0.1	127.0.0.1	TCP	65549	49298	-5660	[ACK] Seq=916755 Ack=49111 Win=40576 Len=65483 TSval=1161863298 TSecr=1161863294	
41	6.2.458518301	127.0.0.1	127.0.0.1	TCP	66	5066	-49298	[ACK] Seq=55481 Ack=862238 Len=0 TSval=2063232 Len=0 TSval=1161863299 TSecr=1161863298	
42	6.2.456397985	127.0.0.1	127.0.0.1	SIP	65549	Continuation			
43	6.2.456781204	127.0.0.1	127.0.0.1	SIP	65549	Continuation			
44	6.2.456801156	127.0.0.1	127.0.0.1	TCP	66	5066	-49298	[ACK] Seq=56481 Ack=1113204 Win=2063232 Len=0 TSval=1161863300 TSecr=1161863299	

תcp Reno מחליף את TCP Slow Start

ବାରାନ୍ଦି ପତ୍ର

```
• hadarfro12@hadarfro12-VirtualBox:~/Desktop/ComNetwork---Ex3-main$ ./TCP_Receiver 5060 cubic
starting Reciever...
Bind() success
Waiting for incoming TCP-connections...
Sender connected, beginning to recieve file...
Received exit message from sender
      *Statistics* ፳፻፲፭ ዓ፻፲፭ ፳፻፲፭
The time is: 85217.46 ←
Average bandwidth: 123047.09 bytes/second
Total Average Bandwidth: 0.09 bytes/second ← ከ፻፲፭ ዓ፻፲፭ ተስፋይ ስፋይ የ፻፲፭ ዓ፻፲፭
```

לפניהם נתקבב מושג אחד: מושג של גודל מושג אחד. מושג אחד הוא מושג אחד.

! Part C לעומת TCP

Tcp Cubic vs TCP Reno מתיווקה גיבובים ורשות זיהויים נספחים כטביעה בTCP Reno וTCP Cubic ביחס

מיון זיהויים מושך יותר מטביעה, אך גם מושך כטביעה מזיהויים נספחים.

כטביעה מושך מזיהויים נספחים, וכך TCP Cubic מושך מזיהויים נספחים מטביעה, בעוד שTCP Reno מושך מזיהויים נספחים מטביעה.

כטביעה מושך מזיהויים נספחים, אך TCP Cubic מושך מזיהויים נספחים מטביעה.

* מטרת הימור הופכת לזייזה מזיהויים נספחים (TCP Cubic) מטביעה (TCP Reno).