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Intro to Networks

November 1, 2023

Assignment 2 Report:

The program works as intended.

You can run this program by compiling all the files in the root folder (root folder of the zipped

folder): `javac *java`

After compilation, run `java RecvTCP <port>` on the server (our port was 10060).

Run `java SendTCP <destination_ip> <port>` on the client (replace

<destination_ip> with the IP address of the server and the same port number used above). By

using RecvTCP.java on the server and SendTCP.java on the client you are able to emulate a TCP

client-server program and the NumberToString conversion.

Minimum round-trip time: 3ms

Average round-trip time: 15ms

Maximum round-trip time: 54ms

```
Select OpenSSH SSH client                                              —  □  ✕

mcl0075@tux064:~$ date
Fri Nov 10 14:44:16 CST 2023
mcl0075@tux064:~$ java SendTCP tux238.eng.auburn.edu 10060
Enter a number (-32768 to 32767): 16735
Bytes in hexadecimal: 41 5F
Received bytes in hexadecimal: FE FF 00 31 00 36 00 37 00 33 00 35
Received string: 16735
Round-trip time: 54 ms
Enter a number (-32768 to 32767): 15
Bytes in hexadecimal: 00 0F
Received bytes in hexadecimal: FE FF 00 31 00 35
Received string: 15
Round-trip time: 4 ms
Enter a number (-32768 to 32767): 72
Bytes in hexadecimal: 00 48
Received bytes in hexadecimal: FE FF 00 37 00 32
Received string: 72
Round-trip time: 3 ms
Enter a number (-32768 to 32767): -5999
Bytes in hexadecimal: E8 91
Received bytes in hexadecimal: FE FF 00 2D 00 35 00 39 00 39 00 39
Received string: -5999
Round-trip time: 8 ms
Enter a number (-32768 to 32767): -32768
Bytes in hexadecimal: 80 00
Received bytes in hexadecimal: FE FF 00 2D 00 33 00 32 00 37 00 36 00 38
Received string: -32768
Round-trip time: 6 ms
Minimum round-trip time: 3 ms
Maximum round-trip time: 54 ms
Average round-trip time: 15.0 ms
```

```
Select OpenSSH SSH client                                              —  □  ✕

mcl0075@tux238:~$ date
Fri Nov 10 14:45:13 CST 2023
mcl0075@tux238:~$ java RecvTCP 10060
Received bytes in hexadecimal: 41 5F
Received number: 16735
Client IP Address: 131.204.14.64
Client Port: 54694
Response bytes in hexadecimal: FE FF 00 31 00 36 00 37 00 33 00 35
Response sent: 16735
Received bytes in hexadecimal: 00 0F
Received number: 15
Client IP Address: 131.204.14.64
Client Port: 54694
Response bytes in hexadecimal: FE FF 00 31 00 35
Response sent: 15
Received bytes in hexadecimal: 00 48
Received number: 72
Client IP Address: 131.204.14.64
Client Port: 54694
Response bytes in hexadecimal: FE FF 00 37 00 32
Response sent: 72
Received bytes in hexadecimal: E8 91
Received number: -5999
Client IP Address: 131.204.14.64
Client Port: 54694
Response bytes in hexadecimal: FE FF 00 2D 00 35 00 39 00 39 00 39
Response sent: -5999
Received bytes in hexadecimal: 80 00
Received number: -32768
Client IP Address: 131.204.14.64
Client Port: 54694
Response bytes in hexadecimal: FE FF 00 2D 00 33 00 32 00 37 00 36 00 38
Response sent: -32768
```