

Tema 1 - TCP IP, UDP

Usage:

1. Server

```
gcc server.c -o server.exe
./server.exe <protocol> <mechanism>
```

- protocol: 'tcp' / 'udp'
- mechanism: 'stream' / 'saw' (stop-and-wait)

2. Client

```
gcc client.c -o client.exe
./client.exe <protocol> <mechanism> <filename>
```

- protocol: 'tcp' / 'udp'
- mechanism: 'stream' / 'saw' (stop-and-wait)
- filename (the name of the file that will be sent)

Results:

1. File size: 6MB

- TCP - stream
 - Transmission time: 0.005276
 - Number of sent messages: 100
 - Number of bytes sent: 6488665
 - Number of messages read: 120
 - Number of bytes read: 6488665
- TCP - stop-and-wait
 - Transmission time: 0.006239
 - Number of sent messages: 100
 - Number of bytes sent: 6488665
 - Number of messages read: 100
 - Number of bytes read: 6488665

- UDP - stream
 - Transmission time: 0.004980
 - Number of sent messages: 100
 - Number of bytes sent: 6488665
 - Number of messages read: 75
 - Number of bytes read: 4852790

2. File size: 100MB

- TCP - stream
 - Transmission time: 0.103931
 - Number of sent messages: 1587
 - Number of bytes sent: 103818660
 - Number of messages read: 1628
 - Number of bytes read: 103818660
- TCP - stop-and-wait
 - Transmission time: 0.135803
 - Number of sent messages: 1587
 - Number of bytes sent: 103818660
 - Number of messages read: 1587
 - Number of bytes read: 103818660
- UDP - stream
 - Transmission time: 0.081644
 - Number of sent messages: 1587
 - Number of bytes sent: 103818660
 - Number of messages read: 1486
 - Number of bytes read: 97209725

3. File size: 1GB

- TCP - stream
 - Transmission time: 2.644373
 - Number of sent messages: 16410
 - Number of bytes sent: 4140979
 - Number of messages read: 14820
 - Number of bytes read: 4140979
- UDP - stream
 - Transmission time: 2.665491
 - Number of sent messages: 16410
 - Number of bytes sent: 4140979
 - Number of messages read: 16410
 - Number of bytes read: 4140979