Tema 1 - TCP IP, UDP

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: 1GB

   - TCP
     - Transmission time: 2.172025
     - Number of sent messages: 16410
     - Number of bytes sent: 1073741824
     - Number of messages read: 14424
     - Number of bytes read: 4140979
   - UDP
     - Transmission time: 2.152526
     - Number of sent messages: 16410
     - Number of bytes sent: 1073741824
     - Number of messages read: 16410
     - Number of bytes read: 4140979

2. File size: 100MB

- TCP
  - Transmission time: 0.065728
  - Number of sent messages: 1603
  - Number of bytes sent: 104857600
  - Number of messages read: 1259
  - Number of bytes read: 419175
- UDP
  - Transmission time: 0.091423
  - Number of sent messages: 1603
  - Number of bytes sent: 104857600
  - Number of messages read: 1603
  - Number of bytes read: 419175

3. File size: 6MB

- TCP
  - Transmission time: 0.005276
  - Number of sent messages: 100
  - Number of bytes sent: 6488665
  - Number of messages read: 120
  - Number of bytes read: 6488665
- UDP
  - Transmission time: 0.005508
  - Number of sent messages: 100
  - Number of bytes sent: 6488665
  - Number of messages read: 100
  - Number of bytes read: 6488665