- Usage:

This folder contains several features that make up the client and server, which can also be used separately.

Usage:

dnsresolve.cc

./dnsresolve.cc hostname

this will print all IPv6 and IPv6 addresses refer to the hostname.

connect.cc.

server: nc -l port

client: ./connect hostname port

this will make connection and then shut down, with nothing printed.

sendreceive.cc

server: nc -l port

client: ./sendreceive hostname port

this will make connection, allowing server to send a message and client will send it back.

server_bind_listen.cc

server: ./server_bind_listen port

client: nc hostname port

this will allow server to listen on wildcard address: port, and let client to make connection. Once they connected, server will wait 20s and then shut down.

server_accept_rw_close.cc

server: ./server_accept_rw_close port

client: nc hostname port

this will make connection, allowing client to send message to server, which will both shows in client and server side.

Additional

```
[zhyuan@attu8 cse333-24wi-zhyuan]$ cd exercises/
[zhyuan@attu8 exercises]$ cd networking/
[zhyuan@attu8 networking]$ cd steps/
[zhyuan@attu8 steps]$ make
g++ -Wall -g -std=c++17 -o dnsresolve dnsresolve.cc
[zhyuan@attu8 steps]$ ./dnsresolve attu8.cs.washington.edu
Here are the IP addresses found for 'attu8.cs.washington.edu'
  IPv6: 2607:4000:200:10::8d
  IPv4: 128.208.1.141
[zhyuan@attu8 steps]$ nc 128.208.1.141 8888
hihihihiihi!!!!!
You typed: hihihihiihi!!!!!
```

```
o [zhyuan@attu8 steps]$ ./server_accept_rw_close 8888
  Socket [3] is bound to:
    IPv6 address :: and port 8888

  New client connection
  Socket [4] is bound to:
    IPv6 address ::ffff:128.208.1.141 and port 44334
    DNS name: attu8.cs.washington.edu
  Server side interface is ::ffff:128.208.1.141 [attu8.cs.washington.edu]
    the client sent: hihihihiihi!!!!!
  []
```

when we use ./server_function port, we set nullptr to getaddrinfo( ) as thr first parameter to indicate that we allow wildcard address here. So we can deifnitely use 127.0.0.1 or localhost or hostname to get connection, but can also use dnsresolve we have to get more if we want.