Network final assignment
Yehudit Brickner

Part1:

works as it is spoused to.

below are screenshots of the results.

Part2/Part1:

The code in the files net_client.c and net_server.c did not have matching ports, and net_client.c didn't have an IP address.
when running the code in these configurations these are my results:

	Nonmatching port	Matching port
No IP	Error establishing communication: Network is unreachable. (image1)	Error establishing communication: Network is unreachable. (image2)
Wrong IP	Error establishing communication: NO route to host. (image3)	Error establishing communication: NO route to host. (image4)
Correct IP	Error establishing communication: Connection refused. (image5)	No errors- printed what it was spoused to. (image6)

When trying to run the client without the server running and the correct IP and port, we get an error. Error establishing communication: NO route to host. (image7)

Image1	
Image2	
Image3	

Image4	 ``` 18 #define SIM_LENGTH 10 19 #define IP_ADDRESS "10.9.13.221" 20 // #define IP_ADDRESS "????" 21 #define PORT 9999 22 ``` ``` 19 20 #define PORT 9999 21 #define SIM_LENGTH 10 22 ``` PROBLEMS OUTPUT TERMINAL ∨ TERMINAL /2nd year 2nd semester/networking/finale assignmet$ gcc -o tcpc net_client.c -w yehudit@yehudit-Aspire-E1-572:~/Documents/ariel university /2nd year 2nd semester/networking/finale assignmet$ ./tcpc Client is alive and establishing socket connection. Error establishing communications: No route to host yehudit@yehudit-Aspire-E1-572:~/Documents/ariel university /2nd year 2nd semester/networking/finale assignmet$ Server has written 10 to socket. yehudit@yehudit-Aspire-E1-572:~/Documents/ariel uni versity/2nd year 2nd semester/networking/finale ass ignmet$ gcc -o tcps net_server.c -w yehudit@yehudit-Aspire-E1-572:~/Documents/ariel uni versity/2nd year 2nd semester/networking/finale ass ignmet$ ./tcps
Image5	``` #define IP_ADDRESS "10.9.13.222" // #define IP_ADDRESS "????" #define PORT 9998 ``` ``` 19 20 #define PORT 9999 21 #define SIM_LENGTH 10 22 ``` BLEMS OUTPUT TERMINAL TERMINAL /2nd year 2nd semester/networking/finale assignmet$ gcc -o tcpc net_client.c -w yehudit@yehudit-Aspire-E1-572:~/Documents/ariel university /2nd year 2nd semester/networking/finale assignmet$ ./tcpc Client is alive and establishing socket connection. Error establishing communications: Connection refused yehudit@yehudit-Aspire-E1-572:~/Documents/ariel university /2nd year 2nd semester/networking/finale assignmet$ ^C yehudit@yehudit-Aspire-E1-572:~/Documents/ariel versity/2nd year 2nd semester/networking/finale ignmet$ gcc -o tcps net_server.c -w yehudit@yehudit-Aspire-E1-572:~/Documents/ariel versity/2nd year 2nd semester/networking/finale ignmet$ ./tcps
Image6	``` #define IP_ADDRESS "10.9.13.222" // #define IP_ADDRESS "????" #define PORT 9999 ∨ int main(void) ``` ``` 18 19 20 #define PORT 9999 21 #define SIM_LENGTH 10 22 23 int main(void) ``` BLEMS OUTPUT TERMINAL TERMINAL yehudit@yehudit-Aspire-E1-572:~/Documents/ariel university /2nd year 2nd semester/networking/finale assignmet$ gcc -o tcpc net_client.c -w yehudit@yehudit-Aspire-E1-572:~/Documents/ariel university /2nd year 2nd semester/networking/finale assignmet$ ./tcpc Client is alive and establishing socket connection. Client has received 1 from socket. Client has received 2 from socket. Client has received 3 from socket. Client has received 4 from socket. Client has received 5 from socket. Client has received 6 from socket. Client has received 7 from socket. Client has received 8 from socket. Client has received 9 from socket. Client has received 10 from socket. Exiting now. yehudit@yehudit-Aspire-E1-572:~/Documents/ariel university yehudit@yehudit-Aspire-E1-572:~/Documents/ariel uni versity/2nd year 2nd semester/networking/finale ass ignmet$ gcc -o tcps net_server.c -w yehudit@yehudit-Aspire-E1-572:~/Documents/ariel uni versity/2nd year 2nd semester/networking/finale ass ignmet$ ./tcps Server has written 1 to socket. Server has written 2 to socket. Server has written 3 to socket. Server has written 4 to socket. Server has written 5 to socket. Server has written 6 to socket. Server has written 7 to socket. Server has written 8 to socket. Server has written 9 to socket. Server has written 10 to socket. yehudit@yehudit-Aspire-E1-572:~/Documents/ariel uni versity/2nd year 2nd semester/networking/finale ass
Image7	``` Client is alive and establishing socket connection. Error establishing communications: No route to host yehudit@yehudit-Aspire-E1-572:~/Documents/ariel university /2nd year 2nd semester/networking/finale assignmet$ ./tcpc Client is alive and establishing socket connection. Error establishing communications: No route to host yehudit@yehudit-Aspire-E1-572:~/Documents/ariel university /2nd year 2nd semester/networking/finale assignmet$ ``` ``` ignmet$ gcc -o tcps net_server.c -w yehudit@yehudit-Aspire-E1-572:~/Documents/ariel uni versity/2nd year 2nd semester/networking/finale ass ignmet$ ./tcps ^C yehudit@yehudit-Aspire-E1-572:~/Documents/ariel uni versity/2nd year 2nd semester/networking/finale ass ignmet$ ```

The code for the net_client that can accept the hostname is in the file new_client.c. here are the results of running the code


```
yehudit@yehudit-Aspire-E1-572:~/Documents/ariel university/2nd ye
ar 2nd semester/networking/finale assignmet$ ./newtcpc yehudit-As
pire-E1-572Address for yehudit-Aspire-E1-572 is 127.0.1.1
Client is alive and establishing socket connection.
Client has received 1 from socket.
Client has received 2 from socket.
Client has received 3 from socket.
Client has received 4 from socket.
Client has received 5 from socket.
Client has received 6 from socket.
Client has received 7 from socket.
Client has received 8 from socket.
Client has received 9 from socket.
Client has received 10 from socket.
Exiting now.
yehudit@yehudit-Aspire-E1-572:~/Documents/ariel
 university/2nd year 2nd semester/networking/fi
nale assignmet$
```

```
yehudit@yehudit-Aspire-E1-572:~/Documents/ariel university/2nd ye
ar 2nd semester/networking/finale assignmet$ ./tcps
Server has written 1 to socket.
Server has written 2 to socket.
Server has written 3 to socket.
Server has written 4 to socket.
Server has written 5 to socket.
Server has written 6 to socket.
Server has written 7 to socket.
Server has written 8 to socket.
Server has written 9 to socket.
Server has written 10 to socket.
yehudit@yehudit-Aspire-E1-572:~/Documents/ariel
 university/2nd year 2nd semester/networking/fi
nale assignmet$
```

Part2/Part2:

the code for this part is in the file tcp2.c

when running the code with http://www.yahoo.com I got the following result:

I coudnt accses the website because it was permintly removed and I was told to try to accses the same website with https.

when running the code http://www.yahoo.com/does-not-exist I got the following result:

same as with yahoo.

when running the code with http://ab-webcam-jeru.epizy.com/?i=2 I got the following result:

```
yehudit@yehudit-Aspire-E1-572:~/Documents/ariel university/2nd year 2nd semester/networking/finale assignmet$ ./t http://ab-webcam-jeru.epizy.com/?i
=2
Address for ab-webcam-jeru.epizy.com is 185.27.134.130
Client is alive and establishing socket connection.
GET /?i=2 HTTP/1.0
HOST: ab-webcam-jeru.epizy.com

CONNECTED!


HTTP/1.1 200 OK
Server: nginx
Date: Tue, 02 Aug 2022 13:24:00 GMT
Content-Type: text/html
Content-Length: 835
Connection: close
Vary: Accept-Encoding
Expires: Thu, 01 Jan 1970 00:00:01 GMT
Cache-Control: no-cache

<html><body><script type="text/javascript" src="/aes.js" ></script><script>function toNumbers(d){var e=[];d.replace(/(..)/g,function(d){e.push(parse
Int(d,16))});return e}function toHex(){for(var d=[],d=1==arguments.length&&arguments[0].constructor==Array?arguments[0]:arguments,e="",f=0;f<d.lengt
h;f++)e+=(16>d[f]?"0":"")+d[f].toString(16);return e.toLowerCase()}var a=toNumbers("f655ba9d09a112d4968c63579db590b4"),b=toNumbers("98344c2eee86c399
4890592585b49f80"),c=toNumbers("eb26b5f18166a64ede244fa8be1036c2");document.cookie="__test="+toHex(slowAES.decrypt(c,2,a,b))+"; expires=Thu, 31-Dec-
37 23:55:55 GMT; path=/"; location.href="http://ab-webcam-jeru.epizy.com/?i=3";</script><noscript>This site requires Javascript to work, please enab
le Javascript in your browser or use a browser with Javascript support</noscript></body></html>

Exiting now.
```

I was able to accses the website because it is an http, but coudnt see the data beause it was in javascript and not html.

when running the code with http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file1.html I got the following result:

```
yehudit@yehudit-Aspire-E1-572:~/Documents/ariel university/2nd year 2nd semester/networking/finale assignmet$ ./t http://gaia.cs.umass.edu/wireshark
-labs/HTTP-wireshark-file1.html
Address for gaia.cs.umass.edu is 128.119.245.12
Client is alive and establishing socket connection.
GET /wireshark-labs/HTTP-wireshark-file1.html HTTP/1.0
HOST: gaia.cs.umass.edu

CONNECTED!


HTTP/1.1 200 OK
Date: Tue, 02 Aug 2022 13:32:49 GMT
Server: Apache/2.4.6 (CentOS) OpenSSL/1.0.2k-fips PHP/7.4.30 mod_perl/2.0.11 Perl/v5.16.3
Last-Modified: Tue, 02 Aug 2022 05:59:02 GMT
ETag: "80-5e53bd034cb84"
Accept-Ranges: bytes
Content-Length: 128
Connection: close
Content-Type: text/html; charset=UTF-8

<html>
Congratulations.  You've downloaded the file
http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file1.html!
</html>

Exiting now.
```

I was able to acsses the website because it is an http, and I could see the file because it was in html.

when running the code with http://gaia.cs.umass.edu/wireshark-labs/HTTP-wireshark-file1 I got the following result:

I wasn't able to connect because I didn't give it the full path of the url.

when running the code with http://www.google.co.il I got the following result:

I was able to acsses the website even though it its real website is https because the website doesn't have an expires date. I also got a lot of gibrish that represents what is on the google page.

All the code can be found in my github here: https://github.com/Yehudit-Brickner/network-final-assignment