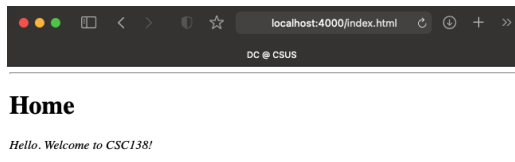


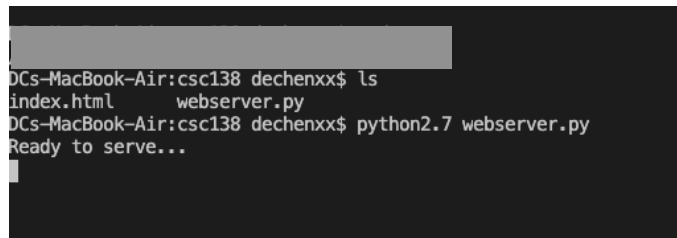
CSC138 Socket 3 - Web Server

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Browser Screenshot:



Terminal Screenshot:



Python Code:

```
from socket import *
import sys

# Create a server socket, bind it to a port and start listening
serverSocket = socket(AF_INET, SOCK_STREAM)
# Assign a port number
serverPort = 4000

# Bind the socket to server address and server port
serverSocket.bind(('', serverPort))

# Listen to at most 1 connection at a time
serverSocket.listen(1)

#Servers should be up and running/listening to the incoming connections
while True:
    # Establish the connection
    print('Ready to serve...')
    # Set up a new connection from the client
    connectionSocket, addr = serverSocket.accept()
    fileExist = 'false'
    try:
        message = connectionSocket.recv(1024).decode()
        filename = message.split()[1]
        f = open(filename[1:])
        outputdata = f.readlines()
        fileExist = 'true'
        #Send one HTTP header line into socket
        connectionSocket.send("HTTP/1.0 200 OK\r\n".encode())
        connectionSocket.send("Content-Type:text/html\r\n".encode())
```

```

        #Send the content of the requested file to the client
        for i in range(0, len(outputdata)):
            connectionSocket.send(outputdata[i].encode())
            connectionSocket.send("\r\n".encode())
        connectionSocket.close()
    except IOError:
        #Send response message for file not found
        if fileExist == "false":
            # Create a socket on the proxyserver
            c = socket(AF_INET, SOCK_STREAM) # Fill in start. # Fill in end.
            hostn = filename.replace("www.", "", 1)
            print(hostn)
            try:
                # Connect to the socket to port 80
                c.connect(hostn, 80)
                print('Socket connected to port 80 of the host')
                # Create a temporary file on this socket and ask port 80 for the
                # file requested by the client
                fileobj = c.makefile('r', 0)
                fileobj.write("GET "+"http://" + filename + " HTTP/1.0\n\n")
                # Read the response into buffer
                buff = fileobj.readlines()
                # Create a new file in the cache for the requested file.
                # Also send the response in the buffer to client socket and the
                # corresponding file in the cache
                tmpFile = open("./" + filename, "wb")
                for i in range(0, len(buff)):
                    tmpFile.write(buff[i])
                    connectionSocket.send(buff[i].encode())
            except:
                print("Illegal request")
        else:
            print('404 Not Found')
#Close client socket
serverSocket.close()
sys.exit()

```

index.html

```

<head>
    <title> DC @ CSUS</title>
    <span>
        <hr>
        <h1> Home</h1>
        <p> <i> Hello. Welcome to CSC138!</i></p>
        <hr>
    </span>
</head>

```