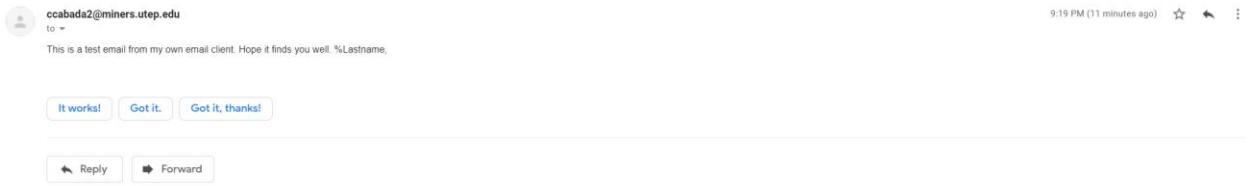
CS5313: Computer Networks
Instructor: Dr. Deepak Tosh
Carlos Cabada

Fall 2020
Date: 09/18/2020

Assignment 1

Evidence:



Code: Cabada_EmailClient.py

```
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from socket import *
import sys
import re
import time

def check(email):
    # Regular expression for validating an Email
    regex = '^[a-z0-9]+[\._]?[a-z0-9]+[@]\w+[.]\w{2,3}$'
    if (re.search(regex, email)):
        return True
    else:
        return False


def connect_server(server, port, socket):
    try:
        # connecting to the server
        socket.connect((server, port))
        print("Socket successfully connected")

    except socket.gaierror:
        # this means could not resolve the host
        print("there was an error resolving the host")
        sys.exit()


def helo(server, socket):
    try:
        helo = 'HELO '+server+'\r\n'
        # sending helo command to start SMTP conversation with the server
        socket.send(helo.encode())
        print("Sent the HELO Command Successfully")
        server_response = socket.recv(1024)
        print(server_response.decode())


    except socket.gaierror:
        # this means could not resolve the host
        print("there was an error resolving the host")
        sys.exit()


def email(sender, recepient, socket):
    send = 'mail from: '+sender+'\r\n'
    receive = 'rcpt to: '+recepient+'\r\n'
    data = 'DATA\r\n'
    period = '\r\n.\r\n'
    try:
        ##############################################################################
        #Sends the sender's email
        time.sleep(3)
```

```
        socket.send(send.encode())
        server_response = socket.recv(1024)
        print(server_response.decode())
        time.sleep(3)
        ##############################################################################
        # Sends the receiver's email
        socket.send(receive.encode())
        server_response = socket.recv(1024)
        print(server_response.decode())
        time.sleep(3)
        ##############################################################################
        # Sends the "DATA" to the server
        socket.send(data.encode())
        server_response = socket.recv(1024)
        print(server_response.decode())
        ##############################################################################
        # Sends the Subject line plus the email to the server
        time.sleep(3)
        subjectLine = "SUBJECT: "+input("What is the subject line?")+"\r\n\r\n"
        email_body = input("What is the Email body?")
        email = subjectLine + email_body
        socket.send(email.encode())
        server_response = socket.recv(1024)
        print(server_response.decode())

        ##############################################################################
        # Sends the terminator character, ".", to the server

        time.sleep(3)
        socket.send(period.encode())
        server_response = socket.recv(1024)
        print(server_response.decode())

    except socket.gaierror:
        # this means could not resolve the host
        print("there was an error resolving the host")
        sys.exit()



def main():
    # Utep's smtp server
    smtp_server = "smtp.utep.edu"
    port = 25
    #email_format = False


    #while (email_format == False):
    #    sender_email = input("What is the sender's email? \n")
    #    if (check(sender_email)):
    #        email_format = True
    #    recepient_email = input("What is the recepient's email? \n")
    #    if (check(recepient_email)):
    #        email_format = True
    sender_email = input("What is the sender's email? \r\n")

    recepient_email = input("What is the recepient's email? \r\n")

    new_socket = socket(AF_INET, SOCK_STREAM)



    # connecting to the server
    connect_server(smtp_server, port, new_socket)
    # initiates 3 way handshake
    helo(smtp_server, new_socket)
    email(sender_email, recepient_email, new_socket)

    new_socket.close()




main()
```

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Test email sent to carloscabada44@gmail.com:

```
C:\Users\CsManiac\OneDrive\Semester9\ComputerNetworks\EmailClient\venv\Scripts\python.exe C:/Users/CsManiac/OneDrive/Semester9/ComputerNetworks/EmailClient/Cabada_EmailClient.py
What is the sender's email?
ccabada2@miners.utep.edu
What is the recepient's email?
carloscabada44@gmail.com
Socket successfully connected
Sent the HELO Command Successfully
220 itdsrvmail00.utep.edu Microsoft ESMTP MAIL Service ready at Fri, 18 Sep 2020 21:18:40 -0600

250 itdsrvmail00.utep.edu Hello [129.108.0.223]

250 2.1.0 Sender OK

250 2.1.5 Recipient OK

What is the subject line?Email from my email client
What is the Email body?This is a test email from my own email client. Hope it finds you well. [lastname,
Firstname].354 Start mail input; end with <CRLF>.<CRLF>

250 2.6.0 <624dac1b-8aaa-4e08-a018-aa8dab323d7b@itdsrvmail00.utep.edu> [InternalId=7881264988248, Hostname=itdsrvmail01.utep.edu] 1652 bytes in 3.091, 0.522 KB/sec Queued mail for delivery


Process finished with exit code 0
```

Test email sent to dktosh.utep@gmail.com:

```
C:\Users\CsManiac\OneDrive\Semester9\ComputerNetworks\EmailClient\venv\Scripts\python.exe C:/Users/CsManiac/OneDrive/Semester9/ComputerNetworks/EmailClient/Cabada_EmailClient.py
What is the sender's email?
ccabada2@miners.utep.edu
What is the recepient's email?
dktosh.utep@gmail.com
Socket successfully connected
Sent the HELO Command Successfully
220 itdsrvmail00.utep.edu Microsoft ESMTP MAIL Service ready at Fri, 18 Sep 2020 21:23:48 -0600

250 itdsrvmail00.utep.edu Hello [129.108.0.223]

250 2.1.0 Sender OK

250 2.1.5 Recipient OK

What is the subject line?Email from my email client
What is the Email body?This is a test email from my own email client. Hope it finds you well. Cabada, Carlos
354 Start mail input; end with <CRLF>.<CRLF>

250 2.6.0 <1d1c8498-3c80-47d0-9bae-da07e3093e26@itdsrvmail00.utep.edu> [InternalId=7881264988258, Hostname=itdsrvmail01.utep.edu] 1656 bytes in 3.079, 0.525 KB/sec Queued mail for delivery


Process finished with exit code 0
```

Instructions:

To run this script, make sure to have install on your machine Python 3.

Then enter the following on the command line:

python3 Cabada_EmailClient.py

Resources used:

- Socket programming in python: https://realpython.com/python-sockets/
- SMTP command references: https://www.samlogic.net/articles/smtp-commandsreference.htm
- List of All SMTP Commands and Response Codes: https://blog.mailtrap.io/smtp-commands-and-responses/
- Python SSL library: https://docs.python.org/3/library/ssl.html#module-ssl