Erik Macik
Conputer Networks Assignment 1
SMTP

Contents of the program Macik_EmailClient.py

```
# Erik Macik
# Computer Networks Assignment 1
# SMTP Server communication

from socket import *


# Constant SMTP commands used when creating messages for SMTP
server
HELO = "helo "
MAIL_FROM = "mail from: "
RCPT_TO = "rcpt to: "
DATA = "data"
SUBJECT = "subject: "
BODY = ""
RETURN = "\r\n"

# Receive a message from the server represented y
`client_socket`
def receive_and_print(client_socket):
    response = client_socket.recv(1024)
    print('From server:', response.decode())

# Send a message to the server represented by `client_socket`
# The message will have a prefix of `command` to identify
command
# The message will have contents of `argument`
def send_message(client_socket, command, argument):
    to_send = command + argument + RETURN
    if command == SUBJECT:
        to_send += RETURN
    elif command == BODY:
        to_send += RETURN+"."+RETURN
    client_socket.send(to_send.encode())

# Main function. Read SMTP Server address and port number from
user, and connect
# to server.
# The user is walked through the SMTP conversation process where
they are asked
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# for input, it is automatically sent to the server in the
correct format,
# and the response from the server is shown to the user.
# #
if __name__ == "__main__":
    print("SMTP Mail Server automation")

    # Get SMTP server and port from user
    server_name = input("Enter SMTP mail server address: ")
    server_port = int(input("Enter port numer: "))

    # Initiate TCP connection with server
    client_socket = socket(AF_INET, SOCK_STREAM) # TCP
connection

    try:
        # Try to connect
        print("Connecting to mail server...")
        client_socket.connect((server_name, server_port))
        print("Connected to", server_name, "at port",
server_port)
    except Exception as e:
        # Quit if the connection fails
        print("Couldn't connect to server")
        exit()

    # Display successful connection response
    receive_and_print(client_socket)

    # Read and communicate domain name with helo command
    domain_name = input("Enter the domain name: ")
    send_message(client_socket, HELO, domain_name)
    receive_and_print(client_socket)

    # Read and communicate source email
    source_email = input("Enter your email address: ")
    send_message(client_socket, MAIL_FROM, source_email)
    receive_and_print(client_socket)

    # Read and communicate receiving email
    dest_email = input("Enter the receiving email address: ")
    send_message(client_socket, RCPT_TO, dest_email)
    receive_and_print(client_socket)

    # Initiate start of email contents with server
    send_message(client_socket, DATA, "")
    receive_and_print(client_socket)
```

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    # Read email subject and body from user
    subject = input("Enter email subject: ")
    body = input("Enter email body: ")

    # Communicate email subject and body
    send_message(client_socket, SUBJECT, subject)
    send_message(client_socket, BODY, body)

    # Display successful message queued
    receive_and_print(client_socket)

    # Close connection
    client_socket.close()
```

Contents of README.txt:

USAGE FOR Macik_EmailClient.py

Instructions for running my email client:

1. Connect your machine to the UTEP VPN if you are not running this program in person at UTEP.
2. Run the email client with the following command: python3 Macik_EmailClient.py
3. The program will prompt you for the information it needs.
4. Specifying the SMTP server:
    i. Enter "smtp.utep.edu" as the SMTP server
    ii. Enter "25" as the port number
5. If the connection is successful, the program will continue. If it is unsuccessful, the program will quit.
6. Enter "utep.edu" as the domain name.
7. Enter your university email as the "your email address."
8. Enter the university email of the receiver you wish to send to.
9. Specifying main contents
    i. Enter any string for the "subject" of the email
    ii. Enter any string for the "body" of the email
10. After your mail has been successfully added to the server's queue, you will see "Queued mail for delivery" and the program will quit.

Evidences and sample runs:

Proof of successful test email sent from esmacik@miners.utep.edu to esmacik@miners.utep.edu with program output and received email screenshot.

```
MacBook-Pro:Assignment 1 erikmacik$ python3 Macik_EmailClient.py
SMTP Mail Server automation
Enter SMTP mail server address: smtp.utep.edu
Enter port numer: 25
Connecting to mail server...
Connected to smtp.utep.edu at port 25
From server: 220 itdsrvmail00.utep.edu Microsoft ESMTP MAIL Service ready at Fri, 18 Sep 2020 1
5:06:35 -0600

Enter the domain name: utep.edu
From server: 250 itdsrvmail00.utep.edu Hello [129.108.0.223]

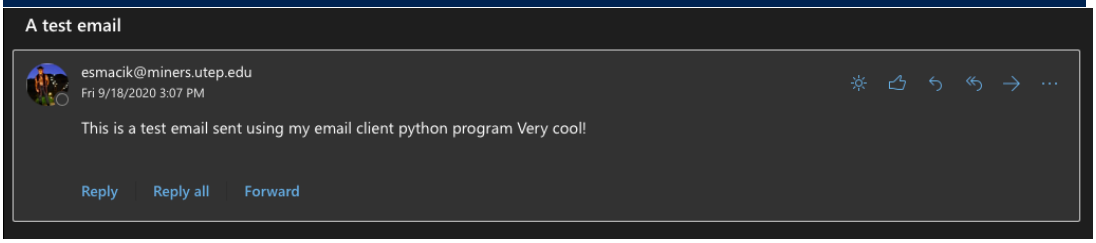
Enter your email address: esmacik@miners.utep.edu
From server: 250 2.1.0 Sender OK

Enter the receiving email address: esmacik@miners.utep.edu
From server: 250 2.1.5 Recipient OK

From server: 354 Start mail input; end with <CRLF>.<CRLF>

Enter email subject: A test email
Enter email body: This is a test email sent using my email client python program Very cool!
From server: 250 2.6.0 <081dbe9a-39b3-4a8f-b09d-1a33c1ea2208@itdsrvmail00.utep.edu> [InternalId
=204131205647701, Hostname=ITDSRVMBX000.utep.edu] Queued mail for delivery

MacBook-Pro:Assignment 1 erikmacik$
```



Proof of successful submission of email from esmacik@miners.utep.edu to dktosh.utep@gmail.com

```
MacBook-Pro:Assignment 1 erikmacik$ python3 Macik_EmailClient.py
SMTP Mail Server automation
Enter SMTP mail server address: smtp.utep.edu
Enter port numer: 25
Connecting to mail server...
Connected to smtp.utep.edu at port 25
From server: 220 itdsrvmail00.utep.edu Microsoft ESMTP MAIL Service ready at Thu, 17 Sep 2020
 22:26:56 -0600

Enter the domain name: utep.edu
From server: 250 itdsrvmail00.utep.edu Hello [129.108.0.223]

Enter your email address: esmacik@miners.utep.edu
From server: 250 2.1.0 Sender OK

Enter the receiving email address: dktosh.utep@gmail.com
From server: 250 2.1.5 Recipient OK

From server: 354 Start mail input; end with <CRLF>.<CRLF>

Enter email subject: Email from my email client
Enter email body: This is a test email from my own email client. Hope it finds you well. Ma
cik, Erik
From server: 250 2.6.0 <425b4b13-94c1-44e0-801d-f8e87eca00a3@itdsrvmail00.utep.edu> [Internal
Id=204045306298915, Hostname=ITDSRVMBX010.utep.edu] Queued mail for delivery

MacBook-Pro:Assignment 1 erikmacik$
```

References used:

- The following stack overflow page provided some clarification on the format of strings that need to be sent to the SMTP server. For example, it was a bit confusing that an "enter" sequence in this context is the string "\r\n".
  https://stackoverflow.com/questions/33397024/mail-client-in-python-using-sockets-onlyno-smtplib