Lab 10 (UDP Socket Programming)

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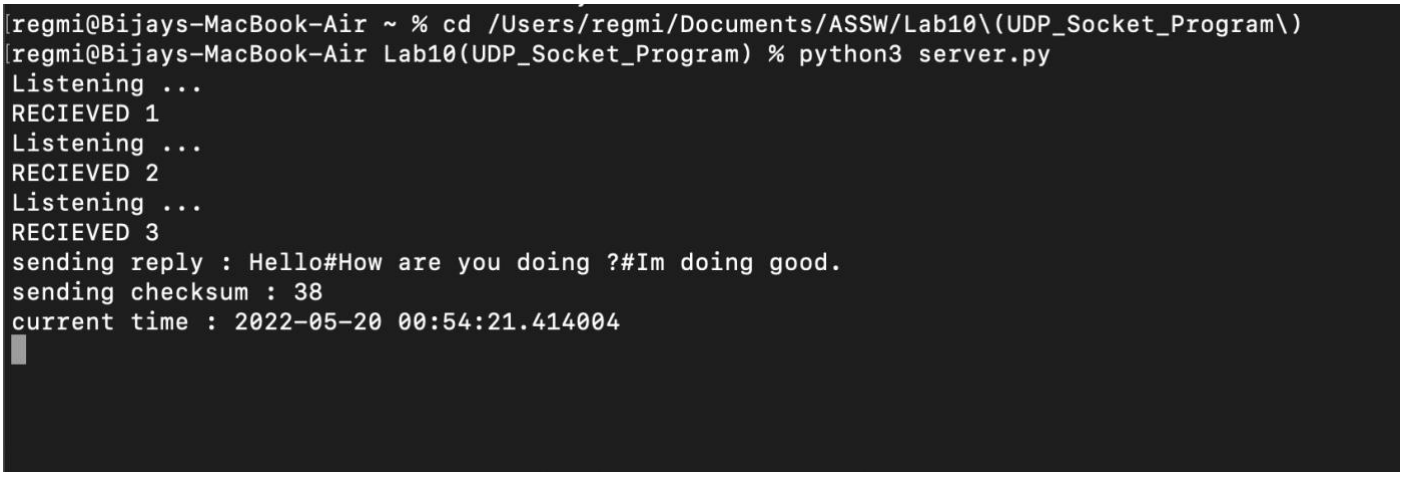
Q.1) Daytime Service. Use the socket.getservbyname() to determine the port number for the “daytime” service under the UDP protocol. Check the documentation for getservbyname() to get the exact usage syntax (i.e., socket.getservbyname.__doc__). Now write an application that sends a dummy message over and wait for the reply. Once you have received a reply from the server, display it to the screen.

Server

```
import socketserver
import datetime;


HOST = 'localhost'
PORT = 5454
messages = []


class Message():
    msg1 = None
    msg2 = None
    msg3 = None

    def encoded(self):
        return self.msg1 + '#' + self.msg2 + '#' + self.msg3

    def checksum(self):
        return len(self.msg1 + self.msg2 + self.msg3)


class MyUDPHandler(socketserver.DatagramRequestHandler):

    def handle(self):
        print('Listening ...')
```

```
        if self.server.data.msg1 is None:
            print('RECIEVED 1')
            self.server.data.msg1 = self.request[0].decode()
        elif self.server.data.msg2 is None:
            print('RECIEVED 2')
            self.server.data.msg2 = self.request[0].decode()
        elif self.server.data.msg3 is None:
            print('RECIEVED 3')
            self.server.data.msg3 = self.request[0].decode()

            reply = self.server.data.encoded()
            checksum = str(self.server.data.checksum())

            print('sending reply :', reply)
            print('sending checksum :', checksum)
            ct = datetime.datetime.now()
            print("current time :", ct)

            self.request[1].sendto(reply.encode(),
self.client_address)
            self.request[1].sendto(checksum.encode(),
self.client_address)

            self.server.data = Message()



server = socketserver.UDPServer((HOST, PORT), MyUDPHandler)
server.data = Message()
server.serve_forever()
```

Output



Client

```
import socket
import time

HOST = 'localhost'
PORT = 5454

sock = socket.socket(socket.AF_INET, socket.SOCK_DGRAM)

t1 = input('ENTER MESSAGE 1 : ')
t2 = input('ENTER MESSAGE 2 : ')
t3 = input('ENTER MESSAGE 3 : ')
message = t1 + t2 + t3
checksum = len(message)

sock.sendto(t1.encode(), (HOST, PORT))
sock.sendto(t2.encode(), (HOST, PORT))
sock.sendto(t3.encode(), (HOST, PORT))

recv_message = ''
recv_checksum = ''

while len(recv_message) == 0 : recv_message =
sock.recv(50).decode()
while len(recv_checksum) == 0 : recv_checksum =
sock.recv(50).decode()

if (recv_message.replace('#', '') == message): print('message
is correct! sent:', message, ', received:', recv_message)
else: print('message is wrong', recv_message)

if (int(recv_checksum) == checksum): print('checksum is
correct! sent:', checksum, ', received:', recv_checksum)
else: print('checksum is wrong', recv_checksum)
```

Output