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CEL 51, DCCN, Lab 8: Socket Programming

AIM: To implement Client Server program.

THEORY:

Socket Programming:

Socket programming is a way of connecting two nodes on a network to communicate with each other. One socket(node) listens on a particular port at an IP, while other socket reaches out to the other to form a connection. Server forms the listener socket while client reaches out to the server. They are the real backbones behind web browsing. In simpler terms there is a server and a client. Socket programming is started by importing the socket library and making a simple socket.

Server Socket Methods:

Sr.No.	Method & Description
1	**s.bind()** This method binds address (hostname, port number pair) to socket.
2	**s.listen()** This method sets up and start TCP listener.
3	**s.accept()** This passively accept TCP client connection, waiting until connection arrives (blocking).

Client Socket Methods:

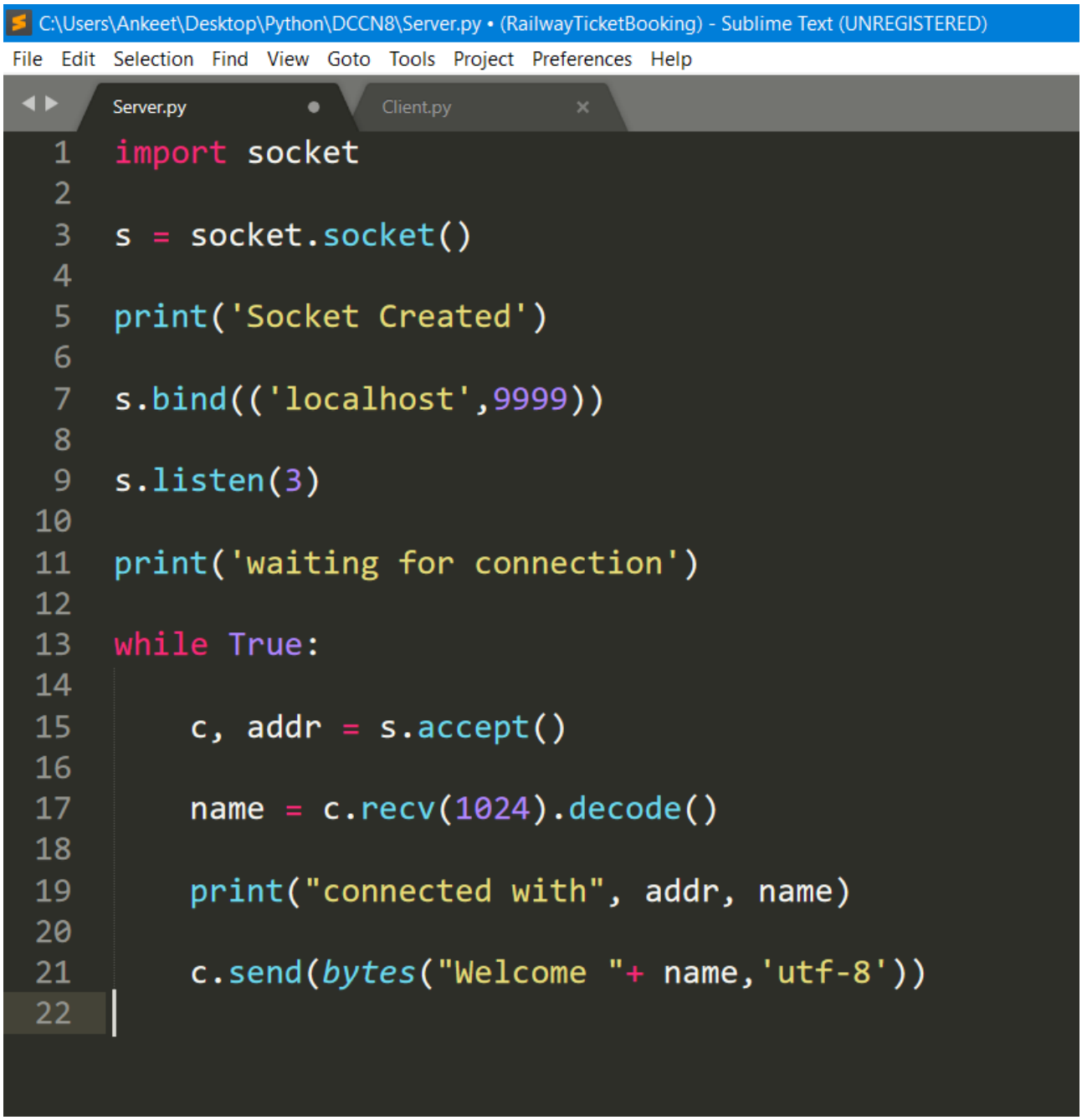
Sr.No.	Method & Description
1	**s.connect()** This method actively initiates TCP server connection.

General Socket Methods:

Sr.No.	Method & Description
1	**s.recv()** This method receives TCP message
2	**s.send()** This method transmits TCP message
3	**s.recvfrom()** This method receives UDP message
4	**s.sendto()** This method transmits UDP message
5	**s.close()** This method closes socket
6	**socket.gethostname()** Returns the hostname.

CODE:

Server.py



client.py

C:\Users\Ankeet\Desktop\Python\DCCN8\Client.py (RailwayTicketBooking) - Sublime Text (UNREGISTERED)

File Edit Selection Find View Goto Tools Project Preferences Help

Server.py Client.py

```
1  import socket
2
3  c = socket.socket()
4
5  c.connect(('localhost',9999))
6
7  name = input("Enter Your Name: ")
8
9  c.send(bytes(name,'utf-8'))
10
11 print(c.recv(1024).decode())
```

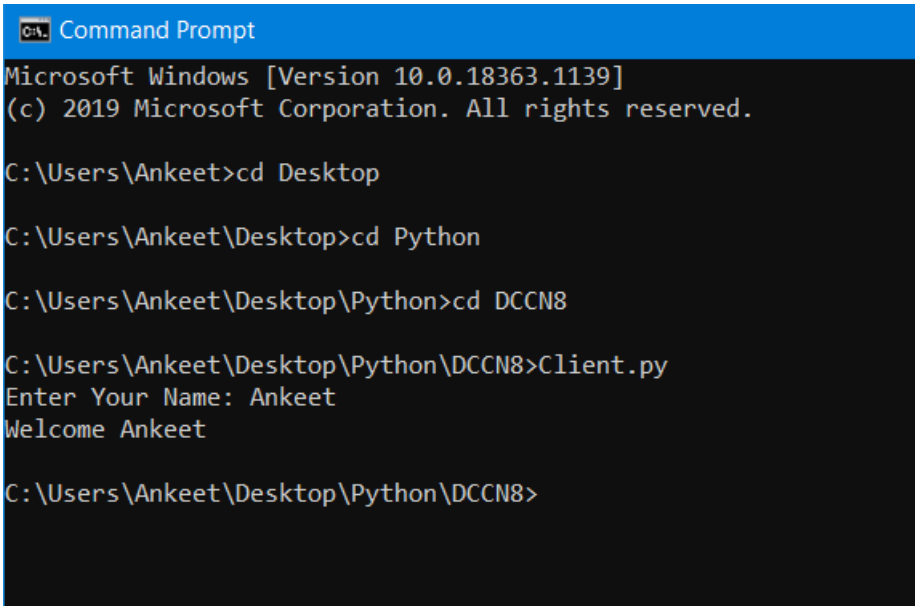
OUTPUT:

server.py

Command Prompt - Server.py

```
Microsoft Windows [Version 10.0.18363.1139]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Ankeet>cd Desktop

C:\Users\Ankeet\Desktop>cd Python

C:\Users\Ankeet\Desktop\Python>cd DCCN8

C:\Users\Ankeet\Desktop\Python\DCCN8>Server.py
Socket Created
waiting for connection
connected with ('127.0.0.1', 52502) Ankeet
```

Client.py



CONCLUSION:

After completing this experiment, I understood concept of socket programming.

REFERENCE:

https://www.tutorialspoint.com/python/python_networking.htm