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TE COMPS
BATCH-C
2018130044

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Lab 8: Socket Programming

AIM: To implement Socket Programming and establish a connection between client and server.

THEORY:

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.

CODE:

- **server.py**

```
import socket
```

```
s = socket.socket()
print("Socket successfully created")
port = 12345
```

```
s.bind(('', port))
print ("socket binded to %s" %(port))
```

```
s.listen(5)
print ("socket is listening")
```

```
while True:
```

```
    c, addr = s.accept()
    print('Got connection from', addr)
    c.sendall(b'Thank you for connecting')
    c.close()
```

- **client.py**

```
import socket
```

```
s = socket.socket()
```

```
port = 12345
```

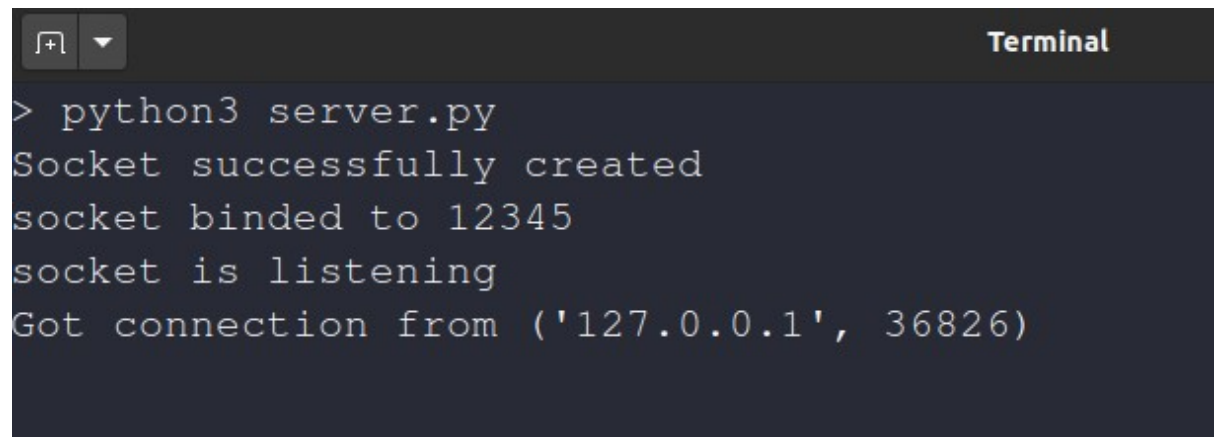
```
s.connect(('127.0.0.1', port))
```

```
print(s.recv(1024))
```

```
s.close()
```

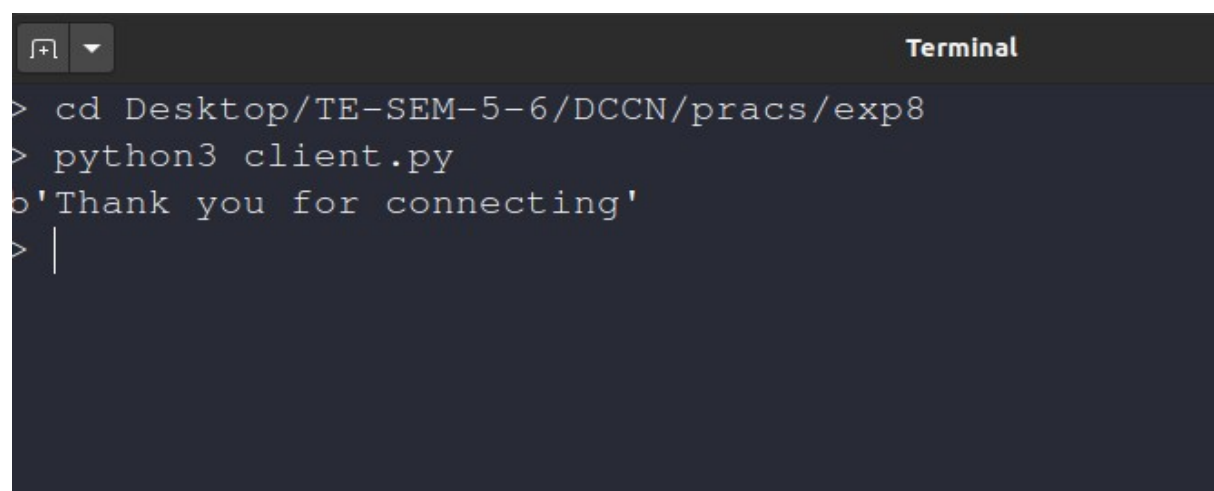
OUTPUT:

- **server.py**

A terminal window titled "Terminal" with a dark background. It shows the execution of a Python script. The prompt is ">". The first command is "python3 server.py". The output consists of five lines: "Socket successfully created", "socket binded to 12345", "socket is listening", and "Got connection from ('127.0.0.1', 36826)".

```
> python3 server.py
Socket successfully created
socket binded to 12345
socket is listening
Got connection from ('127.0.0.1', 36826)
```

- **client.py**

A terminal window titled "Terminal" with a dark background. It shows the execution of a Python script. The prompt is ">". The first command is "cd Desktop/TE-SEM-5-6/DCCN/pracs/exp8". The second command is "python3 client.py". The output is a single line: "o'Thank you for connecting'". The prompt is followed by a vertical bar "|".

```
> cd Desktop/TE-SEM-5-6/DCCN/pracs/exp8
> python3 client.py
o'Thank you for connecting'
> |
```

CONCLUSION:

I understood how to successfully establish a connection between client and server using socket programming.

REFEERENCES:

1. [geeksforgeeks.org/socket-programming-python/](https://www.geeksforgeeks.org/socket-programming-python/)