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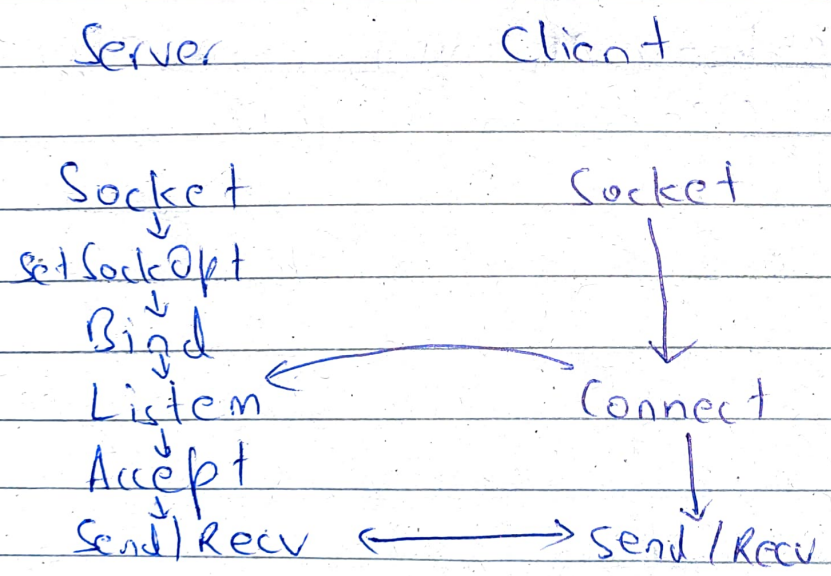
Computer Network

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 of an IP, while other socket reaches out to the other to form a connection



1. create() the socket
   AF_INET (IPV4 protocol)
   SOCK_STREAM : TCP
2. Bind()

bind function binds the socket to the address and port number specified in address

3 Listen()

Listen puts the server socket in passive mode, where it waits for the client to approach the server to make connection.

4 Accept()

At this point, connection is established between client and server.

Server

```
from socket import *

serverName = "127.0.0.1"
serverPort = 12000

serverSocket = socket(AF_INET, SOCK_STREAM)
serveSocket.bind((serverName, serverPort))
serverSocket.listen(1)
print("The server is ready to listen")
while 1:
    connectionSocket, addr = serverSocket.accept()
    sentence = connectionSocket.recv(1024).decode()
    file = open(sentence, "r")
    I = file.read(1024)
    connectionSocket.send(I.encode())
    file.close()
```

client

```
from socket import *
```

```
serverName = "127.0.0.1"
serverPort = 12000
clientSocket = socket(AF_INET, SOCK_STREAM)
clientSocket.connect((serverName, serverPort))
sentence = input("Enter file name")
clientSocket.send(sentence.encode())
fileContents = clientSocket.recv(1024).decode()
print("From server", fileContents)

clientSocket.close()
```