**Socket Server**

A server has a bind() method which binds it to a specific ip and port so that it can listen to incoming requests on that ip and port.A server has a listen() method which puts the server into listen mode. This allows the server to listen to incoming connections. And last a server has an accept() and close() method. The accept method initiates a connection with the client and the close method closes the connection with the client.

# first of all import the socket library

import socket

# next create a socket object

s = socket.socket()

print("Socket successfully created")

# reserve a port on your computer in our

# case it is 12345 but it can be anything

port = 12345

# Next bind to the port

# we have not typed any ip in the ip field

# instead we have inputted an empty string

# this makes the server listen to requests

# coming from other computers on the network

s.bind(('localhost', port))

print("socket binded to %s") %(port)

# put the socket into listening mode

s.listen(5)

print("socket is listening")

# a forever loop until we interrupt it or

# an error occurs

while True:

# Establish connection with client.

c, addr = s.accept()

print('Got connection from'), addr

# send a thank you message to the client.

c.send('Thank you for connecting')

# Close the connection with the client

c.close()

**Algorithm:**

* First of all we import socket which is necessary.
* Then we made a socket object and reserved a port on our pc.
* After that we binded our server to the specified port. Passing an empty string means that the server can listen to incoming connections from other computers as well. If we would have passed 127.0.0.1 then it would have listened to only those calls made within the local computer.
* After that we put the server into listen mode.5 here means that 5 connections are kept waiting if the server is busy and if a 6th socket trys to connect then the connection is refused.
* At last we make a while loop and start to accept all incoming connections and close those connections after a thank you message to all connected sockets.

**Output :**

# start the server:

$ python server.py

Socket successfully created

socket binded to 12345

socket is listening

Got connection from ('127.0.0.1', 52617)

**Socket Client**

We need something with which a server can interact. We could tenet to the server like this just to know that our server is working. Type these commands in the terminal:

# Import socket module

import socket

# Create a socket object

s = socket.socket()

# Define the port on which you want to connect

port = 12345

# connect to the server on local computer

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

# receive data from the server

print (s.recv(1024))

# close the connection

s.close()

**Algorithm:**

* First of all we make a socket object.
* Then we connect to localhost on port 12345 (the port on which our server runs) and lastly we receive data from the server and close the connection.
* Now save this file as client.py and run it from the terminal after starting the server script.

**Output :**

# start the client:

$ python client.py

Thank you for connecting