DHCP SERVER

Introduction :

- To implement dhcp server using python

Program :

server.py

sends the ip address '172.18.5.31' to client.

```python
import  socket
server_socket = socket.socket(socket.AF_INET,socket.SOCK_DGRAM)
server_socket.bind(('127.0.0.1',9070))
max_bytes=65535
while True:
    (data,address) = server_socket.recvfrom(max_bytes)
    print("client details : ",address)
    ip='172.18.5.31'
    server_socket.sendto(ip.encode(),address)
```

client.py

sets the ip_address given by server to wifi interface .

```python
import  socket

import os

max_bytes=65535
client_socket = socket.socket(socket.AF_INET,socket.SOCK_DGRAM)
address=(socket.gethostname(),9070)
while True:
    text=''
    client_socket.sendto(text.encode(),('127.0.0.1',9070))
    data,address=client_socket.recvfrom(max_bytes)
    if ('127.0.0.1',9070)==address:
        new_ip_address=data.decode()
        ip_address='sudo ifconfig wlo1 '+new_ip_address
        os.system(ip_address)
        break
```

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output :

before assignment

```
praveen@praveen:~$ ifconfig
eno1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 172.18.5.30  netmask 255.255.0.0  broadcast 172.18.255.255
        inet6 fe80::73bc:970b:1d36:670  prefixlen 64  scopeid 0x20<link>
        ether a0:d3:c1:66:23:74  txqueuelen 1000  (Ethernet)
        RX packets 1479  bytes 1049388 (1.0 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 1364  bytes 182481 (182.4 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 596  bytes 61564 (61.5 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 596  bytes 61564 (61.5 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

wlo1: flags=4099<UP,BROADCAST,MULTICAST>  mtu 1500
        ether 48:5a:b6:28:2d:f5  txqueuelen 1000  (Ethernet)
        RX packets 191  bytes 19264 (19.2 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 47  bytes 7114 (7.1 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

after assignment

```
praveen@praveen:~$ ifconfig
eno1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 172.18.5.30  netmask 255.255.0.0  broadcast 172.18.255.255
        inet6 fe80::73bc:970b:1d36:670  prefixlen 64  scopeid 0x20<link>
        ether a0:d3:c1:66:23:74  txqueuelen 1000  (Ethernet)
        RX packets 1628  bytes 1087500 (1.0 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 1506  bytes 199285 (199.2 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 645  bytes 67732 (67.7 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 645  bytes 67732 (67.7 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

wlo1: flags=4099<UP,BROADCAST,MULTICAST>  mtu 1500
        inet 172.18.5.31  netmask 255.255.0.0  broadcast 172.18.255.255
        ether 48:5a:b6:28:2d:f5  txqueuelen 1000  (Ethernet)
        RX packets 191  bytes 19264 (19.2 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 47  bytes 7114 (7.1 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```