IMPLEMENTATION OF ARP PROTOCOL :

BUG SQUASHERS

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AIM:

To write a python program to simulate Address Resolution Protocol(ARP).

PROCEDURE:

jupyter 1818146_ARP IMPLEMENTATION ✔ a few seconds ago

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```
                        IMPLEMENTATION OF ARP PROTOCOL :


        STEP 1 : Import the MACaddress function from ARP_1818128 file.

        STEP 2 : Get IP address to find the corresponding MAC address.

        STEP 3 : Call the MACaddress function with ip as parameter.

        STEP 4 : Under MACaddress function with key as parameter,
                 create the dictionary with MAC address and IP address as keys.

        STEP 5 : If the entered ip address exists in this dictionary,
                 find the MAC address for the given IP address.

        STEP 6 : Return the MAC address if exists,
                 else return zero.

        STEP 7 : Print the MAC address for the given IP address.
```

PROGRAM-ARP_1818128.py:

ARP_1818128.py - C:\Users\Shanthi Ponnusamy\AppData\Local\Programs\Python\Python38-32\ARP_1818128.py (3.8.5)

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```
def MACaddress(key):

    address = {
                    "10.127.255.255"  :"00:0b:96:9c:88:18",
                    "192.168.255.255" :"00:0a:95:9d:68:16",
                    "172.31.255.255"  :"00:00:0A:BB:28.FC",
                    "10.255.255.255"  :"01:23:45:67:89:ab",
                    "192.168.56.1"    :"10:23:45:78:bc:ab",
                    "190.255.255.255" :"00:0a:96:9c:88:18",
                    "192.168.78.1"    :"10:23:89:78:bc:de",
                    "192.145.06.1"    :"00:00:23:78:bc:fg",
                    "196.255.245.0"   :"00:0a:67:9c:88:18",
                    "192.169.45.1"    :"00:0b:96:9c:88:30"
               }

    if key in address.keys():
          return address[key]
    else:
          return 0
```

PROGRAM-1818128_ARPexe.py:

1818128_ARPexe.py - C:\Users\Shanthi Ponnusamy\AppData\Local\Programs\Python\Python38-32\1818128_ARPexe.py (3.8.5)

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```
from ARP_1818128 import MACaddress

ip = input("Enter the IP address to find the corresponding MAC address:")

Mac = MACaddress(ip)

if(Mac==0):
    print("There is no MAC address found for the given IP address!")
else:
    print("The corresponding MAC address for the given ip address '"+ip+"' is",Mac)
```

OUTPUT:

```
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\Shanthi Ponnusamy\AppData\Local\Programs\Python\Python38-32\1818128_ARPexe.py
Enter the IP address to find the corresponding MAC address:192.169.45.1
The corresponding MAC address for the given ip address '192.169.45.1' is 00:0b:96:9c:88:30
>>>
= RESTART: C:\Users\Shanthi Ponnusamy\AppData\Local\Programs\Python\Python38-32\1818128_ARPexe.py
Enter the IP address to find the corresponding MAC address:190.99.15.71
There is no MAC address found for the given IP address!
>>>
= RESTART: C:\Users\Shanthi Ponnusamy\AppData\Local\Programs\Python\Python38-32\1818128_ARPexe.py
Enter the IP address to find the corresponding MAC address:10.127.255.255
The corresponding MAC address for the given ip address '10.127.255.255' is 00:0b:96:9c:88:18
>>>
= RESTART: C:\Users\Shanthi Ponnusamy\AppData\Local\Programs\Python\Python38-32\1818128_ARPexe.py
Enter the IP address to find the corresponding MAC address:10.12.55.55
There is no MAC address found for the given IP address!
>>>
= RESTART: C:\Users\Shanthi Ponnusamy\AppData\Local\Programs\Python\Python38-32\1818128_ARPexe.py
Enter the IP address to find the corresponding MAC address:190.255.255.255
The corresponding MAC address for the given ip address '190.255.255.255' is 00:0a:96:9c:88:18
>>>
================== RESTART: C:\Users\Shanthi Ponnusamy\AppData\Local\Programs\Python\Python38-32\1818128_ARPex
Enter the IP address to find the corresponding MAC address:180.29.255.255
There is no MAC address found for the given IP address!
>>>
```

Prints the MAC address for the given IP address if it is found else not.

RESULT:

Thus the python program to simulate Address Resolution Protocol(ARP) was executed successfully.