

c arp\_sim.c ×

Users > moshika > Desktop > c arp\_sim.c

```
1 #include <stdio.h>
2 #include <string.h>
3 #define MAX_ENTRIES 5
4
5 struct ARPEntry {
6     char ip[16];
7     char mac[18];
8 }
9 struct ARPEntry arpTable[MAX_ENTRIES];
10 int arpCount = 0;
11 void addEntry(char *ip, char *mac) {
12     if (arpCount < MAX_ENTRIES) {
13         strcpy(arpTable[arpCount].ip, ip);
14         strcpy(arpTable[arpCount].mac, mac);
15         arpCount++;
16     }
17 }
18 char* lookupMAC(char *ip) {
19     for (int i = 0; i < arpCount; i++) {
20         if (strcmp(arpTable[i].ip, ip) == 0)
21             return arpTable[i].mac;
22     }
23     return NULL;
24 }
25 int main() {
26     char ip[16];
27     char *mac;
28     addEntry("192.168.1.2", "AA:BB:CC:DD:EE:01");
29     addEntry("192.168.1.3", "AA:BB:CC:DD:EE:02");
30     addEntry("192.168.1.4", "AA:BB:CC:DD:EE:03");
31
32     printf("ARP Simulation\n");
33     printf("Enter IP to find MAC address: ");
34     scanf("%15s", ip);
35
36     mac = lookupMAC(ip);
37     if (mac != NULL) {
38         printf("ARP Reply: IP %s -> MAC %s\n", ip, mac);
39     } else {
40         printf("ARP Request: IP %s not in table, broadcasting...\n", ip);
41         printf("ARP Reply: MAC address not found in network\n");
42     }
43 }
```

```
Last login: Sun Dec  7 00:23:17 on ttys000
[moshika@Moshikas-MacBook-Air ~ % cd desktop
moshika@Moshikas-MacBook-Air desktop % gcc arp_sim.c -o arp_sim

moshika@Moshikas-MacBook-Air desktop % ./arp_sim

ARP Simulation
Enter IP to find MAC address: 192.168.1.3
ARP Reply: IP 192.168.1.3 -> MAC AA:BB:CC:DD:EE:02
moshika@Moshikas-MacBook-Air desktop %
```