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#include <iostream>
#include<fstream>
#include <iomanip>
#include<string>
using namespace std;

int main() {
cout << "***** PACKET ANALYZER *****" << endl; // prints !!!Hello World!!!
string value, sr_no,time,source,destination,info,protocol,len;
int count=-1,i=0;


int choice;
do
{
ifstream file("data.csv");
//Reinitialize Counters
count=-1;
i=0;
cout<<"\nEnter which protocol packets you want to see"<<endl;
cout<<"1.IP\n2.UDP\n3.TCP\n4.Ethernet\n0Exit!!!\nChoice:"<<endl;
cin>>choice;
string protocolChoice; //sting to hold user packet choice
switch(choice){
case 1: protocolChoice="ICMPv6";
break;
case 2: protocolChoice="UDP";
break;
case 3: protocolChoice="TCP";
break;
case 4: protocolChoice="ARP";
break;
default: protocolChoice="ARP";
break;
}
while(file.good()) //LOOP UNTIL FILE HAS CONTENT
{
getline(file,sr_no,','); //GET STRING TILL ,
getline(file,time,',');
getline(file,source,',');
getline(file,destination,',');
getline(file,protocol,',');
getline(file,len,',');
getline(file,info,'\n');

protocol=string(protocol,1,protocol.length()-2);

if(protocol=="Protocol"||protocol==protocolChoice)
{
cout <<setw(4)<<left<<i++;
cout <<setw(12)<<left<< string( time, 1, time.length()-2 );

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cout << setw(30)<<left<<string( source, 1, source.length()-2 );
cout << setw(30)<<left<<string( destination, 1, destination.length()-2 );
cout <<setw(8)<<left<<protocol;
cout <<setw(8)<<left<< string( len, 1, len.length()-2 );
cout << string( info, 1, info.length()-2 )<<"\n";
count++;
}
}
file.close();
cout<<"\nTotal Packet Count: "<<count;
}while(choice!=0);
return 0;
}
/* output:
* ***** PACKET ANALYZER *****

```

Enter which protocol packets you want to see

1.IP
2.UDP
3.TCP
4.Ethernet
0Exit!!!
Choice:

```

1
0 Time      Source          Destination          ProtocolLength Info
1  0.000000000 fe80::f68e:38ff:fe87:a57e ff02::1:ff02:21a ICMPv6 86 Neighbor Solicitation for fe80
::726d:ecff:fe02:21a from f4:8e:38:87:a5:7e
2  0.151808000 fe80::175:6553:3c34:d4f0 ff02::1:ff02:21a ICMPv6 86 Neighbor Solicitation for fe8
0::726d:ecff:fe02:21a from c8:1f:66:06:4a:84
3  0.245234000 fe80::208:a1ff:fe43:c3c2 ff02::1:ff02:21a ICMPv6 86 Neighbor Solicitation for fe80
::726d:ecff:fe02:21a from 00:08:a1:43:c3:c2
4  0.301527000 fe80::4046:d001:d60a:e934 ff02::1:ff00:1 ICMPv6 86 Neighbor Solicitation for fe8
0::1 from 00:25:64:92:4d:81
5  0.310878000 fe80::80a7:7d55:7ecf:5582 ff02::1:ff02:21a ICMPv6 86 Neighbor Solicitation for fe8
0::726d:ecff:fe02:21a from 34:17:eb:9e:8e:45
6  0.382715000 fe80::104b:adee:75e6:c425 ff02::1:ff2f:e430 ICMPv6 86 Neighbor Solicitation for fe
80::a490:6a6c:d52f:e430 from 00:19:d1:45:e9:4b
7  0.486747000 fe80::8e2:220e:db99:187f ff02::2 ICMPv6 70 Router Solicitation from c8:e0:e
b:9e:44:9e
8  0.619047000 fe80::adb7:4c35:7a64:621e ff02::1:ff18:d425 ICMPv6 86 Neighbor Solicitation for fe
80::899f:4a1b:518:d425 from b8:ac:6f:68:65:68
9  0.621767000 fe80::25e2:1c6e:545d:d5ca ff02::1:ff00:1 ICMPv6 86 Neighbor Solicitation for fe8
0::1 from f0:4d:a2:fd:b3:b3
10 0.879948000 fe80::6600:6aff:fe37:40d9 ff02::1:ff02:22f ICMPv6 86 Neighbor Solicitation for fe8
0::726d:ecff:fe02:22f from 64:00:6a:37:40:d9
11 0.943252000 fe80::4a4d:7eff:fec6:fe57 ff02::1:ff02:21a ICMPv6 86 Neighbor Solicitation for fe8
0::726d:ecff:fe02:21a from 48:4d:7e:c6:fe:57
12 0.973236000 fe80::ad92:4946:c11e:bff0 ff02::1:ff00:1 ICMPv6 86 Neighbor Solicitation for fe8
0::1 from f4:8e:38:9d:86:5c
13 1.001717000 fe80::f68e:38ff:fe87:a57e ff02::1:ff02:21a ICMPv6 86 Neighbor Solicitation for fe8
0::726d:ecff:fe02:21a from f4:8e:38:87:a5:7e
14 1.158015000 fe80::175:6553:3c34:d4f0 ff02::1:ff02:21a ICMPv6 86 Neighbor Solicitation for fe
80::726d:ecff:fe02:21a from c8:1f:66:06:4a:84
15 1.164756000 fe80::90c7:9c8e:4162:743a ff02::16 ICMPv6 110 Multicast Listener Report Me

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ssage v2

16	1.247232000	fe80::208:a1ff:fe43:c3c2	ff02::1:ff02:21a	ICMPv6	86	Neighbor Solicitation for fe80::726d:ecff:fe02:21a from 00:08:a1:43:c3:c2
17	1.299874000	fe80::4046:d001:d60a:e934	ff02::1:ff00:10::1	ICMPv6	86	Neighbor Solicitation for fe80::726d:ecff:fe02:21a from 34:17:eb:9e:8e:45
18	1.334884000	fe80::80a7:7d55:7ecf:5582	ff02::1:ff02:21a	ICMPv6	86	Neighbor Solicitation for fe80::726d:ecff:fe02:21a from 00:19:d1:45:e9:4b
19	1.381157000	fe80::104b:adee:75e6:c425	ff02::1:ff2f:e430	ICMPv6	86	Neighbor Solicitation for fe80::a490:6a6c:d52f:e430 from 00:19:d1:45:e9:4b
20	1.410771000	fe80::adb7:4c35:7a64:621e	ff02::1:ff11:4e6f	ICMPv6	86	Neighbor Solicitation for fe80::5058:2741:6f11:4e6f from b8:ac:6f:68:65:68
21	1.422139000	fe80::ec3b:be3b:a1cf:b8dc	ff02::1:ff64:621e	ICMPv6	86	Neighbor Solicitation for fe80::adb7:4c35:7a64:621e from 28:d2:44:f6:d0:71
22	1.464011000	fe80::c2c9:76ff:fe50:72f9	ff02::2	ICMPv6	70	Router Solicitation from c0:c9:76:50:72:f9
23	1.472534000	fe80::adb7:4c35:7a64:621e	ff02::1:ff1c:b39b	ICMPv6	86	Neighbor Solicitation for fe80::d107:c499:311c:b39b from b8:ac:6f:68:65:68
24	1.502391000	fe80::4a4d:7eff:feca:8004	ff02::1:ff02:21a	ICMPv6	86	Neighbor Solicitation for fe80::726d:ecff:fe02:21a from 48:4d:7e:ca:80:04
25	1.614264000	fe80::4a4d:7eff:fec6:ff33	ff02::1:ff02:21a	ICMPv6	86	Neighbor Solicitation for fe80::726d:ecff:fe02:21a from 48:4d:7e:c6:ff:33
26	1.639345000	fe80::221:9bff:fe6e:4b01	ff02::1:ff02:21a	ICMPv6	86	Neighbor Solicitation for fe80::726d:ecff:fe02:21a from 00:21:9b:6e:4b:01
27	1.880789000	fe80::6600:6aff:fe37:40d9	ff02::1:ff02:22f	ICMPv6	86	Neighbor Solicitation for fe80::726d:ecff:fe02:22f from 64:00:6a:37:40:d9
28	1.998620000	fe80::adb7:4c35:7a64:621e	ff02::1:ffa7:7fb2	ICMPv6	86	Neighbor Solicitation for fe80::a1fb:332b:83a7:7fb2 from b8:ac:6f:68:65:68
29	2.003773000	fe80::f68e:38ff:fe87:a57e	ff02::1:ff02:21a	ICMPv6	86	Neighbor Solicitation for fe80::726d:ecff:fe02:21a from f4:8e:38:87:a5:7e
30	2.028027000	fe80::e298:61ff:fe35:9a26	ff02::1:ff64:621e	ICMPv6	86	Neighbor Solicitation for fe80::adb7:4c35:7a64:621e from e0:98:61:35:9a:26
31	2.040149000	fe80::f68e:38ff:fe87:a56a	ff02::1:ff02:21a	ICMPv6	86	Neighbor Solicitation for fe80::726d:ecff:fe02:21a from f4:8e:38:87:a5:6a
32	2.107577000	fe80::b283:feff:fe4d:f1c9	ff02::1:ff02:21a	ICMPv6	86	Neighbor Solicitation for fe80::726d:ecff:fe02:21a from b0:83:fe:4d:f1:c9
33	2.162415000	fe80::90c7:9c8e:4162:743a	ff02::16	ICMPv6	110	Multicast Listener Report Message v2
34	2.181982000	fe80::175:6553:3c34:d4f0	ff02::1:ff02:21a	ICMPv6	86	Neighbor Solicitation for fe80::726d:ecff:fe02:21a from c8:1f:66:06:4a:84

Total Packet Count: 34

Enter which protocol packets you want to see

1.IP
2.UDP
3.TCP
4.Ethernet
0Exit!!!

Choice:

2

0	Time	Source	Destination	Protocol	Length	Info
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Total Packet Count: 0

Enter which protocol packets you want to see

1.IP

2.UDP
3.TCP
4.Ethernet
0Exit!!!
Choice:

3

0	Time	Source	Destination	Protocol	Length	Info
1	0.243260000	216.58.197.68	10.10.14.151	TCP	66	https > 51709 [FIN, ACK] Seq=1 Ack=1 Win=175 Len=0 TSval=2559300079 TSecr=23747257
2	0.438095000	108.168.177.14	10.10.13.238	TCP	103	[TCP segment of a reassembled PDU]
3	0.746828000	192.168.16.254	10.10.10.28	TCP	60	57777 > etftp [RST] Seq=1 Win=5840 Len=0
4	0.855756000	64.233.188.188	10.10.15.48	TCP	97	hvpvroom > 39687 [PSH, ACK] Seq=1 Ack=1 Win=175 Len=31 TSval=2933171628 TSecr=49981356
5	1.839024000	118.214.135.85	10.10.12.0	TCP	60	https > 50976 [FIN, ACK] Seq=32 Ack=1 Win=980 Len=0
6	1.839028000	118.214.135.85	10.10.12.0	TCP	60	https > 50977 [FIN, ACK] Seq=32 Ack=1 Win=980 Len=0
7	1.886438000	192.168.3.254	192.168.3.211	TCP	62	ndl-aas > fnet-remote-ui [SYN, ACK] Seq=0 Ack=1 Win=29200 Len=0 MSS=1460 SACK_PERM=1
8	1.888346000	192.168.3.254	192.168.3.211	TCP	60	ndl-aas > fnet-remote-ui [ACK] Seq=1 Ack=211 Win=30016 Len=0

Total Packet Count: 8

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