**Program :-**

#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 );

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 fe80::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 fe80::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 fe80::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 fe80::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:eb:9e:44:9e

8 0.619047000 fe80::adb7:4c35:7a64:621e ff02::1:ff18:d425 ICMPv6 86 Neighbor Solicitation for fe80::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 fe80::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 fe80::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 fe80::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 fe80::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 fe80::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 fe80::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 Message 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:ff00:1 ICMPv6 86 Neighbor Solicitation for fe80::1 from 00:25:64:92:4d:81

18 1.334884000 fe80::80a7:7d55:7ecf:5582 ff02::1:ff02:21a ICMPv6 86 Neighbor Solicitation for fe80::726d:ecff:fe02:21a from 34:17:eb:9e:8e:45

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 ProtocolLength Info

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 ProtocolLength 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 hpvroom > 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