Experiment - 14

Aim:

Write a code using RAW sockets to implement packet sniffing.

Algorithm:

1) Define Packet Callback Function
- Creat a function packet_callback that processes incoming packets.
- Extract protocol no, source IP and destination IP.

2) Set up Packet sniffing
- use Scapy's sniff function to capture network packets.
- Apply an IP filter to capture only IP packets.

3) Implement the Main Function:
- Define a main function to start the packet sniffing process

4) Run and Monitor: Excute the script.

code:

```
from scapy.all import sniff
from scapy.layers.inet import IP, TCP,
                        UDP, ICMP
def packet_callback(packet):
    if IP in packet:
        ip_layer = packet[IP]
        protocol = ip_layer.proto
        src_ip = ip_layer.src
        dst_ip = ip_layer.dst
     protocol_name = ""
     if protocol == 1:
         protocol_name = "ICMP"
     elif protocol == 6:
    elif protocol == 17
    else:
       protocol_name = "Unknown Protocol"
    print(f"Protocol : {protocol_name}")
    print(f"Source IP : {src_ip}")
    print("-"*50)
def main()
sniff(iface='Wi-Fi', prn=packet_callback,
         filter="ip", store=0)
if _name_ == "_main_":
       main()
```

O/P:

```
Protocol : TCP
Source IP: 192.168.1.10
Destination IP: 93.184.216.34
```

Result:

Thus the program has been executed successfully