CS23532-COMPUTER NETWORKS-LAB MANUAL
Practical -14

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AIM: - Write a code using RAW sockets to implement packet sniffing.

Algorithm:

1. Create a raw socket using socket.AF_PACKET and socket.SOCK_RAW to capture all network packets.

2. Bind the socket to a network interface (e.g., "eth0" or "Wi-Fi").

3. Continuously receive packets using recvfrom() from the network interface.

4. Display packet details such as source MAC, destination MAC, and protocol type.

Program:

```
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

        # Determine the protocol
        protocol_name = ""
        if protocol == 1:
            protocol_name = "ICMP"
        elif protocol == 6:
            protocol_name = "TCP"
        elif protocol == 17:
            protocol_name = "UDP"
        else:
            protocol_name = "Unknown Protocol"

        # Print packet details
        print(f"Protocol: {protocol_name}")
        print(f"Source IP: {src_ip}")
        print(f"Destination IP: {dst_ip}")
        print("-" * 50)


sniff(iface='Wi-Fi',prn=packet_callback, filter="ip", store=0)
```

Output:

```
Protocol: TCP
Source IP: 192.168.1.5
Destination IP: 172.217.160.14
------------------------------------------------
Protocol: UDP
Source IP: 192.168.1.5
Destination IP: 8.8.8.8
------------------------------------------------
Protocol: ICMP
Source IP: 192.168.1.5
Destination IP: 192.168.1.1
```

RESULT:

Thus the code using RAW sockets to implement packet sniffing has been executed successfully.

Input:-

Output:-