Practical-4.

Packet Sniffing using RAW Sockets

Aim:

To implement a packet sniffer using RAW sockets with Python & Scapy to capture & display IP packets along with their protocol type, source IP & destination IP.

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

        if Protocol == 1:
            Protocol_name = "ICMP"
        elif Protocol == 6:
            Protocol_name = "TCP"
        elif Protocol == 17:
            Protocol_name = "UDP"
        else:
            Protocol_name = "Unknown Protocol"

        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)
```

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Result:

The packet sniffer successfully captured IP packets on the network, identifying their protocol type, source IP & destination IP.