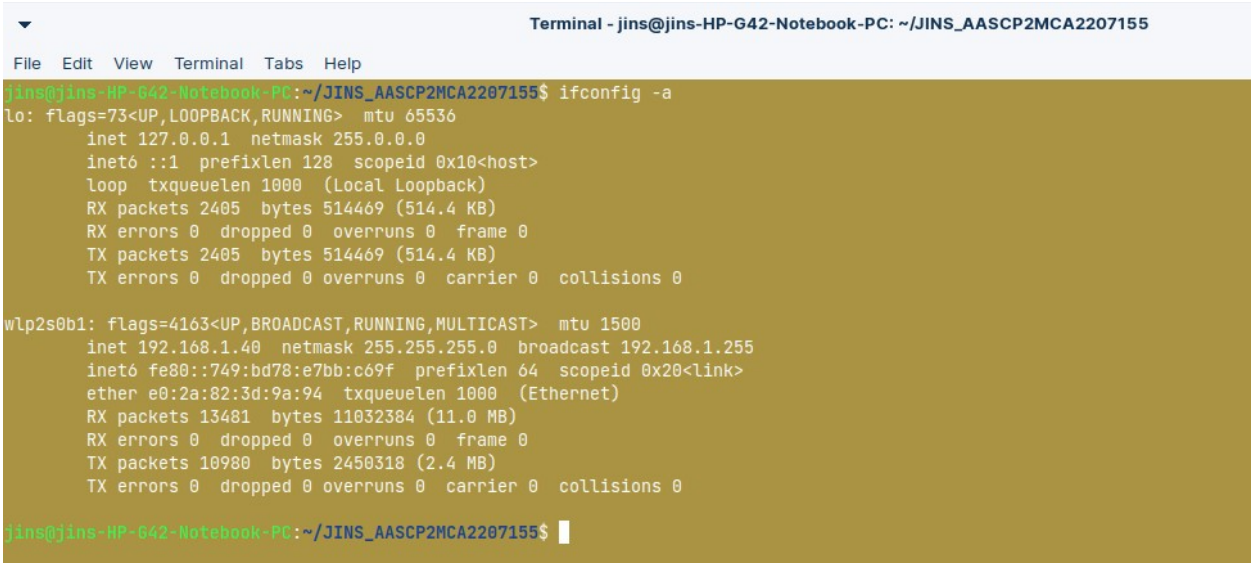
Advanced Computer Networks Labsheet2

Analyzing the Web pages accessed using Wireshark Labsheet2

Part1: Mapping the given URL to IP address using nslookup



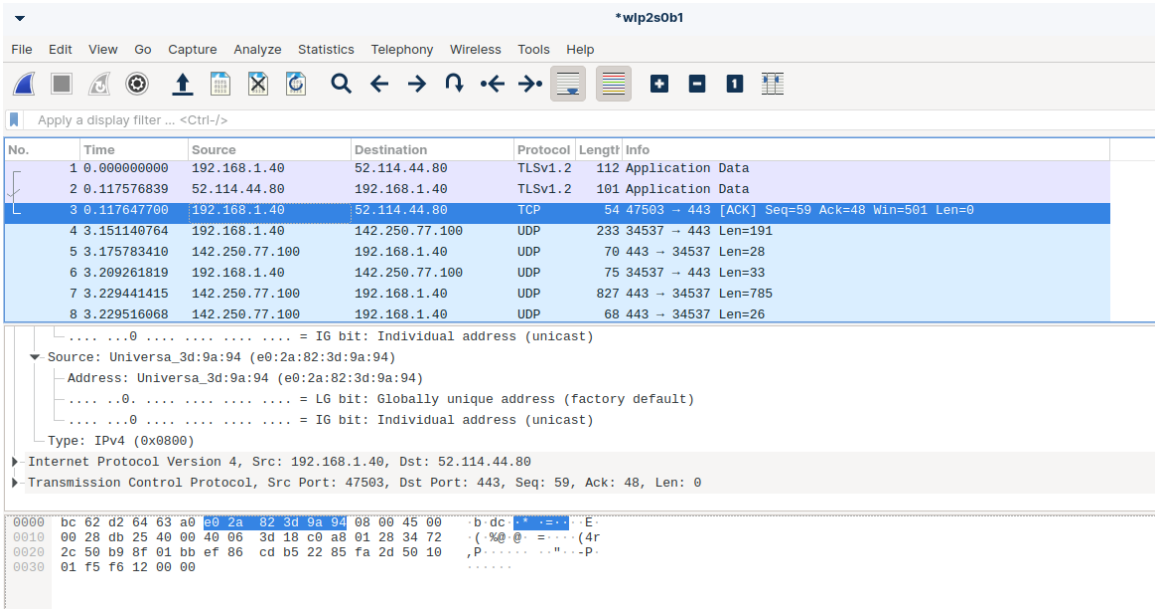
The IP address of irctc.co.in is : 103.252.142.27

The IP address of google.co.in is : 172.217.163.163

Find the IP address of all websites that you are using for Part2.

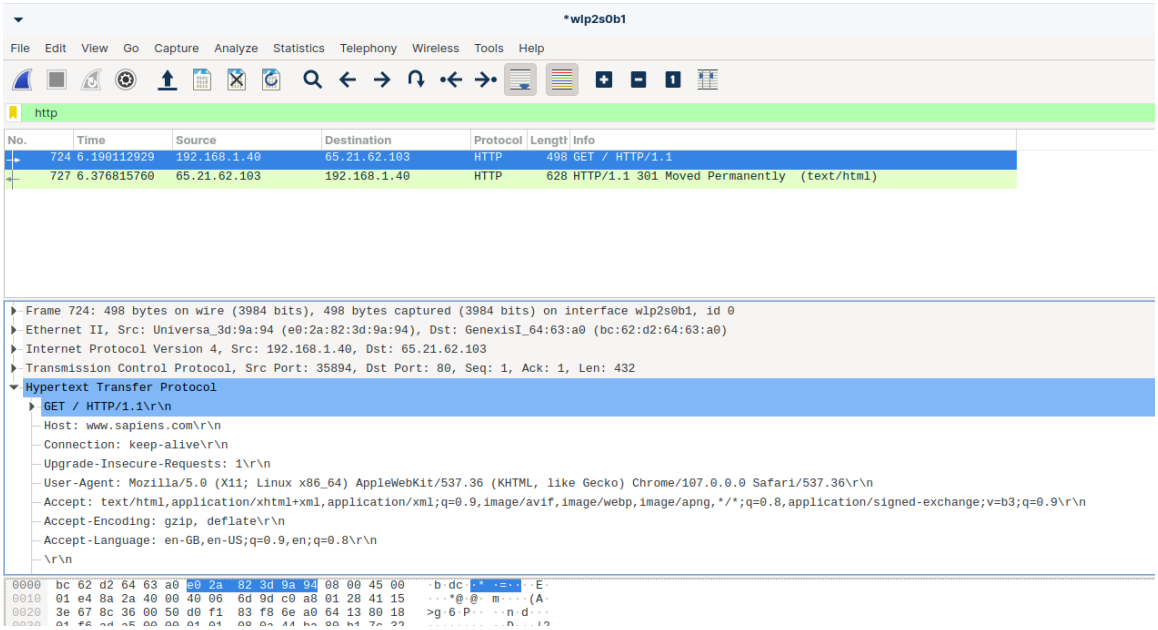
Part2: Understanding the TCP/IP protocol stack using Wireshark

1. Open Packet sniffer [Wireshark] Application and Capture the Wi-Fi/ Ethernet Interface



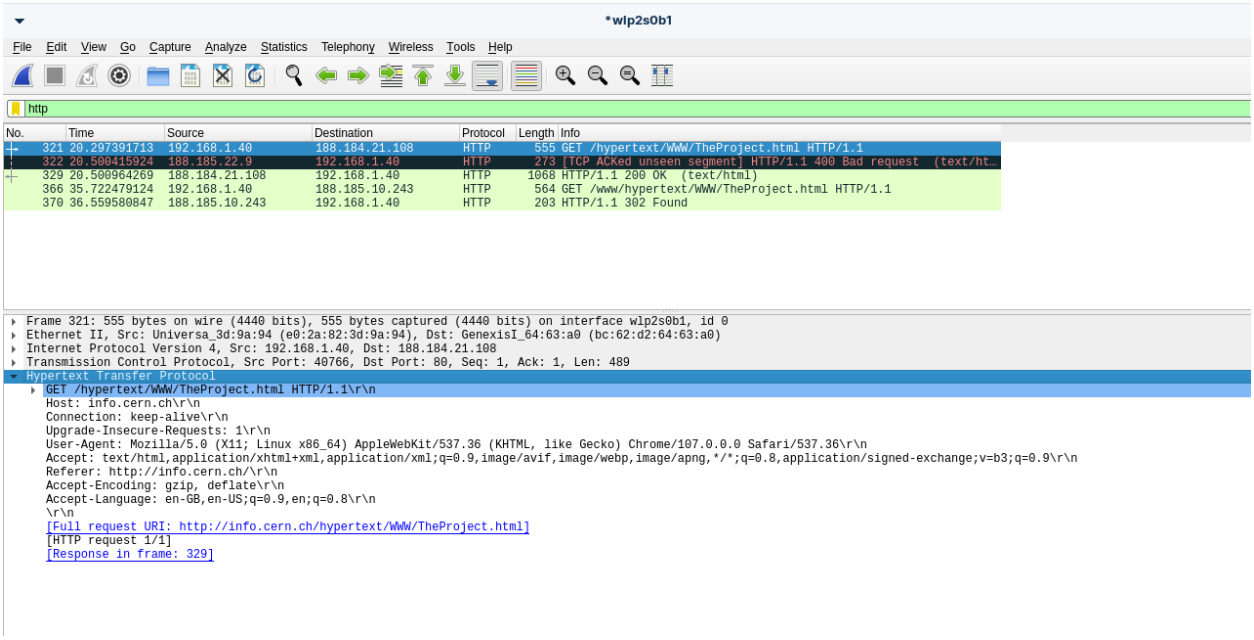
2. Do this activity and capture frames.
    a. Request for a web page by typing the least used URL in the webserver

Web page visited : Sapiens.com
IP Address Captured: 65.21.62.103



2. Briefly explain the **Encapsulation** process in at least one http request frame of the protocol analyzed. Also complete the table below by PDU contents and details requested in each layer. Also try to provide proof in the form of relevant screenshot.

Ans: Encapsulation is the process by which a lower-layer protocol receives data from a higher-layer protocol and then places the data into the data portion of its frame. Thus encapsulation is the process of enclosing one type of packet using another type of packet.



Layer	Protocol	Important Contents (You can get details on clicking on a packet)	Purpose of the content specified in the Layer
Application	HTTP	Request Method : GET URI: /hypertext/WWW/TheProject.html Version: HTTP/1.1	HTTP requests are messages sent by the client to initiate an action on the server . The http method specifies the action to be

			taken.
Transport	TCP	Source port: 40766 Destination Port: 80	Identify applications communicating with each other by means of port numbers.
Network	IPv4	Source IP Address:198.168.1.40 Destination IP Address: 188.184.21.108	Handles the routing and sending of data between different networks by tracking the IP addresses of the source and destination serves.
DataLink Layer	Ethernet II	Source: e0:2a:82:3d:9a:94 Destination : bc:62:d2:64:63:a0 Type : IPv4	Ethernet sends network packets from the sending host to one or more receiving hosts. A destination MAC address indicates a broadcast, meaning the packet is sent from one host to any other on that network