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Assignment 1 Submission
Name: G. Maneesh Kumar
Roll number: 18CS10020
Link of the pcap file: Drive link for pcap
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1)
   a) <u>Application layer</u> :-DNS,SSDP,HTTP,TLS
   b) <u>Transport layer</u> :-UDP,TCP,QUIC
   c) <u>Network layer</u> :-IGMP,ICMP,ipv4,ipv6

2)
   a) Data received by accessing http://iitkgp.ac.in/ :-1619447 bytes
   b) Data received by accessing https://www.cornell.edu/ :-2251596 bytes

3)
   a)

<u>Domain Name</u>	<u>IP</u>
sb.l.google.com	216.58.203.142
star-mini.c10r.facebook.com	31.13.79.35
googlemail.l.google.com	142.250.76.165
www.linkedin.com	13.107.42.14
www.jeeadv.ac.in	35.192.176.149
clients.l.google.com	216.58.203.14, 172.217.166.46, 172.217.166.174
presence.services.sfb.trafficmanager.net	52.114.32.109
safebrowsing.googleapis.com	142.250.76.170
connectivity-check.ubuntu.com	35.224.170.84, 35.232.111.17, 34.122.121.32
beacons.gcp.gvt2.com	172.217.160.195
www.cornell.edu	20.42.25.107
ajax.googleapis.com	142.250.182.202
use.typekit.net	115.112.2.177, 115.112.2.217
clients4.google.com	172.217.166.174

cdnjs.cloudflare.com	104.16.19.94, 104.16.18.94
ssl.google-analytics.com	216.58.203.40
media.univcomm.cornell.edu	20.42.25.107
embanner.univcomm.cornell.edu	20.42.25.107
stats.l.doubleclick.net	74.125.24.155, 74.125.24.154, 74.125.24.157, 74.125.24.156
siteimproveanalytics.com	172.64.196.24, 172.64.197.24
p.typekit.net	23.58.20.108
6120104.global.siteimproveanalytics.io	18.159.119.149, 18.158.85.68

b) yes.we can find them in dns query response.But until we get the correct response ,browser will keep sending queries and we may get incorrect responses (or) many responses.

4)

    a) I observed 19 GET requests when accessing the http://iitkgp.ac.in/ .

Packet No	**GET**
19	http://iitkgp.ac.in/
83	http://iitkgp.ac.in/resources/css/bootstrap.min.css;jsessionid=302DE38B3BD68D62157E0BC368E40644
107	http://iitkgp.ac.in/resources/css/font-awesome.css;jsessionid=302DE38B3BD68D62157E0BC368E40644
110	http://iitkgp.ac.in/resources/common_css/common_stylesheet.css;jsessionid=302DE38B3BD68D62157E0BC368E40644
118	http://iitkgp.ac.in/resources/css/home_style.css;jsessionid=302DE38B3BD68D62157E0BC368E40644

133	http://iitkgp.ac.in/resources/images/hindi.png;jsessionid=302DE38B3BD68D62157E0BC368E40644
212	http://iitkgp.ac.in/resources/images/logo.png;jsessionid=302DE38B3BD68D62157E0BC368E40644
268	http://iitkgp.ac.in/resources/css/override.css;jsessionid=302DE38B3BD68D62157E0BC368E40644
901	http://iitkgp.ac.in/resources/banners/adm_vgsom.jpg;jsessionid=302DE38B3BD68D62157E0BC368E40644
949	http://iitkgp.ac.in/resources/images/nvsp3.png;jsessionid=302DE38B3BD68D62157E0BC368E40644
950	http://iitkgp.ac.in/resources/js/jquery.js;jsessionid=302DE38B3BD68D62157E0BC368E40644
951	http://iitkgp.ac.in/resources/js/bootstrap.min.js;jsessionid=302DE38B3BD68D62157E0BC368E40644
952	http://iitkgp.ac.in/resources/js/override.js;jsessionid=302DE38B3BD68D62157E0BC368E40644
953	http://iitkgp.ac.in/resources/js/navigation.js;jsessionid=302DE38B3BD68D62157E0BC368E40644
1007	http://iitkgp.ac.in/resources/page_js/jquery.tickerNews.min.js;jsessionid=302DE38B3BD68D62157E0BC368E40644
1008	http://iitkgp.ac.in/resources/js/jquery.bootstrap.newsbox.min.js;jsessionid=302DE38B3BD68D62157E0BC368E40644
1009	http://iitkgp.ac.in/resources/page_js/home_page.js;jsessionid=302DE38B3BD68D62157E0BC368E40644

1041	http://iitkgp.ac.in/resources/common_js/common_js.js;jsessionid=302DE38B3BD68D62157E0BC368E40644
1184	http://iitkgp.ac.in/resources/images/index.png;jsessionid=302DE38B3BD68D62157E0BC368E40644

b)

Packet No	Number of TCP segments received	Total amount of data received in HTTP Response message
19	-	-
83	-	-
107	-	-
110	-	-
118	-	-
133	2	2196
212	9	17250
268	-	-
901	63	239321
949	4	9123
950	25	95981
951	10	37058
952	3	8012
953	2	2176
1007	4	4183
1008	2	5456
1009	4	4821

1041	2	3024
1184	3	5750

'-' indicates data is not captured.