HomeWork 1 – Part C

The following are the time (in ms) taken for every server when we run different resolver for 10 times on each of them.

Experiment 1: Run your DNS resolver on each website 10 times, and find the average time to resolve the DNS for each of the 25 websites.

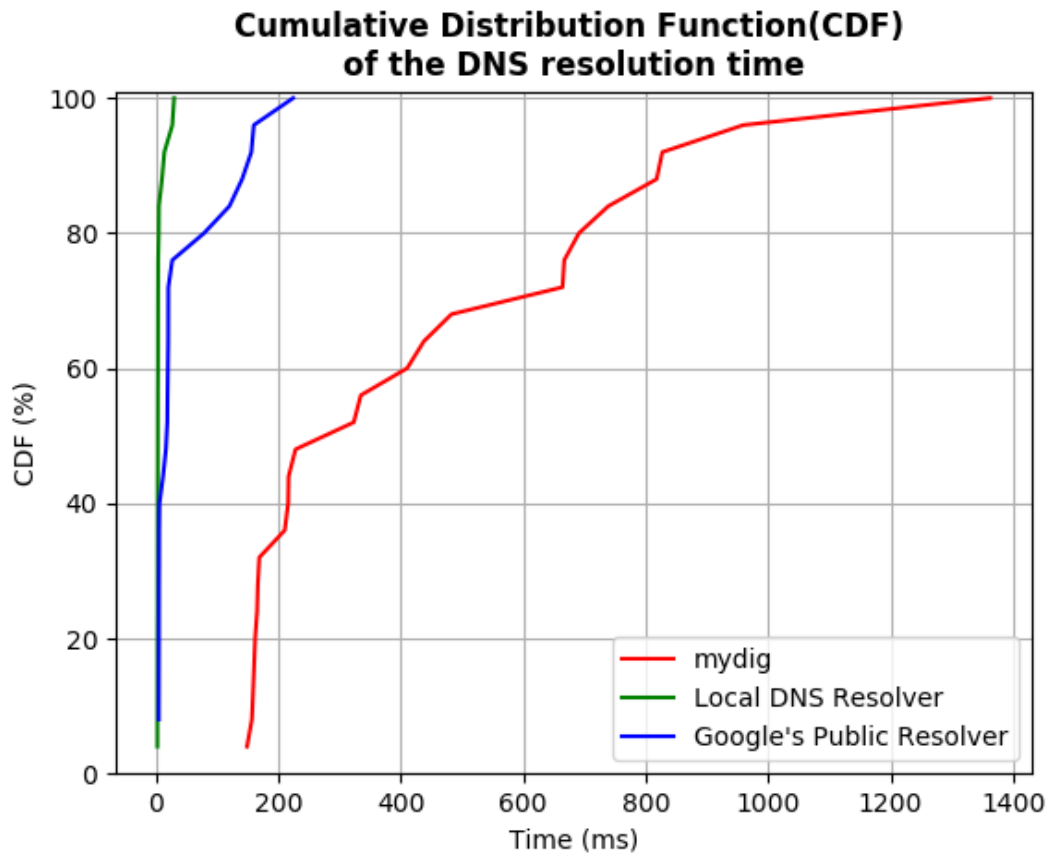| mydig (time in ms)										
Site	1	2	3	4	5	6	7	8	9	10	Average
Google.com	171	159	170	167	181	181	152	171	153	158	166.3
Youtube.com	152	163	162	167	155	164	169	169	166	152	161.9
Facebook.com	141	152	142	150	161	138	155	147	152	148	148.6
Baidu.com	432	428	415	420	442	435	403	4436	416	443	827
Wikipedia.org	194	153	527	197	158	187	158	157	155	216	210.2
Reddit.com	164	155	164	172	143	150	161	161	152	163	158.5
Yahoo.com	163	168	174	190	152	161	153	155	169	166	165.1
Google.co.in	318	346	324	350	338	338	315	354	317	345	334.5
Qq.com	510	513	513	494	486	500	483	2424	499	486	690.8
Taobao.com	213	219	209	233	215	302	223	223	209	233	227.9
Amazon.com	168	173	148	163	159	148	154	163	172	154	160.2
Tmall.com	232	225	222	216	225	201	204	213	210	217	216.5
Twitter.com	134	172	148	219	145	149	137	145	157	160	156.6
Google.co.jp	456	454	460	476	467	2511	471	457	464	452	666.8
Instagram.com	177	165	177	168	157	173	180	155	173	162	168.7
Live.com	219	202	225	216	208	225	222	206	224	211	215.8
Sohu.com	2454	423	415	394	2433	408	435	407	431	377	817.7
Vk.com	666	669	692	640	673	679	658	635	657	671	664
Sina.com.cn	509	612	603	519	508	497	513	628	500	2499	738.8
Jd.com	619	559	602	578	2427	598	2428	608	580	593	959.2
Weibo.com	441	449	406	451	464	453	415	432	409	456	437.6
360.cn	2762	1041	1047	1048	761	937	3052	1033	930	1014	1362.5
Google.de	397	419	402	412	384	417	376	481	400	413	410.1
Google.co.uk	355	289	307	280	300	358	298	368	369	306	323
Google.com.br	520	516	519	437	479	435	496	520	496	408	482.6

Experiment 2: Now use your local DNS resolver and repeat the experiment(state the IP of the DNS resolver you used). Find the average time to resolve the address for the 25 websites, computed as the average over 10 runs.

Local DNS 10.1.16.16 (time in ms)										
Site	1	2	3	4	5	6	7	8	9	10	Average
Google.com	2	2	2	2	4	2	2	2	2	7	2.7
Youtube.com	2	2	4	4	2	2	2	2	2	5	2.7
Facebook.com	4	5	2	2	4	2	2	4	2	2	2.9
Baidu.com	3	2	5	2	2	4	3	3	2	2	2.8
Wikipedia.org	12	2	5	2	2	2	2	2	2	2	3.3
Reddit.com	4	3	2	2	2	2	2	2	4	5	2.8
Yahoo.com	2	2	14	2	2	4	3	2	2	2	3.5
Google.co.in	18	2	5	2	2	2	8	2	2	4	4.7
Qq.com	2	2	2	3	8	2	2	4	5	2	3.2
Taobao.com	2	8	2	2	2	2	5	2	2	8	3.5
Amazon.com	2	2	4	3	3	7	2	3	2	2	3
Tmall.com	75	2	2	2	2	5	2	2	3	2	9.7
Twitter.com	2	2	2	4	2	2	4	2	2	2	2.4
Google.co.jp	19	2	3	4	2	2	2	6	2	2	4.4
Instagram.com	5	2	2	2	2	3	3	8	3	3	3.3
Live.com	2	2	4	2	2	2	2	4	2	2	2.4
Sohu.com	3	2	2	2	2	3	2	2	4	2	2.4
Vk.com	2	5	5	2	2	6	2	2	2	2	3
Sina.com.cn	273	5	2	2	2	2	2	3	2	2	29.5
Jd.com	243	2	4	2	2	2	2	3	4	2	26.6
Weibo.com	2	2	2	4	5	3	2	2	2	2	2.6
360.cn	115	4	2	2	2	2	2	2	2	3	13.6
Google.de	2	2	2	2	2	2	2	2	5	3	2.4
Google.co.uk	2	2	4	2	2	2	2	2	2	2	2.2
Google.com.br	7	2	2	4	2	2	2	2	2	2	2.7

Experiment 3: Change the DNS resolver to Google's public DNS (The IP address of this public DNS is often 8.8.8.8, or 8.8.4.4, but you need to verify). Repeat the experiment one more time.

Google's public DNS 8.8.8.8 (time in ms)										
Site	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Average**
Google.com	21	19	18	19	4	18	19	20	4	19	16.1
Youtube.com	23	21	19	20	19	19	19	25	31	5	20.1
Facebook.com	5	4	8	4	4	4	5	4	4	7	4.9
Baidu.com	5	4	9	4	5	4	4	4	4	6	4.9
Wikipedia.org	29	29	28	20	48	28	20	23	19	21	26.5
Reddit.com	4	5	5	5	6	19	2176	10	4	5	223.9
Yahoo.com	6	4	4	7	4	5	5	5	7	4	5.1
Google.co.in	20	20	22	20	4	20	19	19	19	21	18.4
Qq.com	4	4	4	4	7	4	7	4	5	4	4.7
Taobao.com	4	4	4	5	5	4	4	6	5	5	4.6
Amazon.com	5	4	4	4	5	5	4	5	5	4	4.5
Tmall.com	85	84	5	252	19	266	19	18	18	18	78.4
Twitter.com	8	4	4	6	5	4	5	4	4	4	4.8
Google.co.jp	24	26	19	19	19	22	18	19	18	4	18.8
Instagram.com	5	7	4	5	9	5	5	6	5	5	5.6
Live.com	4	5	4	4	5	5	4	5	4	5	4.5
Sohu.com	244	258	230	468	20	256	18	21	18	24	155.7
Vk.com	4	5	5	5	10	4	7	4	4	4	5.2
Sina.com.cn	327	246	272	19	230	19	30	19	18	19	119.9
Jd.com	250	250	253	244	250	274	18	18	19	21	159.7
Weibo.com	4	4	5	8	19	27	5	18	4	21	11.5
360.cn	82	280	282	287	20	82	81	18	19	255	140.6
Google.de	25	20	33	23	18	18	19	5	19	21	20.1
Google.co.uk	20	20	20	19	19	19	21	21	19	21	19.9
Google.com.br	21	20	19	20	18	21	19	22	20	19	19.9

The graph that shows the Cumulative Distribution Function(CDF) of the DNS resolution time

The Bar Chart Depicting the resolution time for the three experiments