INTERNET TECHNOLOGIES SEM-V

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Q1: Display your systems IP Address, Subnet mask using ipconfig, and find out the network address and the maximum number of systems possible on your network and range of IP addresses available to these systems.

Sol:

```
codefreak@x515da: ~
Vimal_Joshi@x515da:~$ ip addr show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
   link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
   inet 127.0.0.1/8 scope host lo
      valid_lft forever preferred_lft forever
   inet6 ::1/128 scope host
      valid_lft forever preferred_lft forever
2: wlp1s0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default qlen 1000
   link/ether 44:af:28:59:92:8c brd ff:ff:ff:ff:ff
   inet 192.168.96.146/24 brd 192.168.96.255 scope global dynamic noprefixroute wlp1s0
      valid_lft 3104sec preferred_lft 3104sec
   inet6 2405:204:3292:cbcc:faa2:e18c:bb9c:57be/64 scope global temporary dynamic
      valid_lft 3469sec preferred_lft 3469sec
   inet6 2405:204:3292:cbcc:db12:d6d6:a076:8fbe/64 scope global dynamic mngtmpaddr noprefixroute
      valid_lft 3469sec preferred_lft 3469sec
   inet6 fe80::e403:3f3f:a588:170e/64 scope link noprefixroute
      valid_lft forever preferred_lft forever
 imal_Joshi@x515da:~$
```

• System IP Address: 192.168.96.146

Subnet mask: 255.255.255.0Network ID: 192.168.43.0Broadcast ID: 192.168.43.255

Maximum number of system possible on the network: 254
Range of IP addresses: 192.168.43.0 to 192.168.43.255

• Class type: C

Q2. With help of ping, check if you are connected to other systems of your network and find the route to connect to that system using tracert. List all the processes which are using ports for TCP protocol.

Sol:

```
codefreak@x515da: ~
                                                                                      Q =
Vimal_Joshi@x515da:~$ ping google.com
PING google.com(del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e)) 56 data bytes
64 bytes from del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e): icmp_seq=1 ttl=116 time=52.9 ms
64 bytes from del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e): icmp_seq=2 ttl=116 time=116 ms
64 bytes from del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e): icmp_seq=3 ttl=116 time=49.8 ms
64 bytes from del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e): icmp_seq=4 ttl=116 time=46.5 ms
64 bytes from del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e): icmp_seq=5 ttl=116 time=43.7 ms
64 bytes from del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e): icmp_seq=6 ttl=116 time=78.4 ms
64 bytes from del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e): icmp_seq=7 ttl=116 time=62.6 ms
64 bytes from del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e): icmp_seq=8 ttl=116 time=56.4 ms
64 bytes from del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e): icmp_seq=9 ttl=116 time=57.8 ms
64 bytes from del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e): icmp_seq=10 ttl=116 time=55.9 ms
64 bytes from del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e): icmp_seq=11 ttl=116 time=56.0 ms
64 bytes from del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e): icmp_seq=12 ttl=116 time=53.1 ms
64 bytes from del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e): icmp_seq=13 ttl=116 time=52.2 ms
64 bytes from del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e): icmp_seq=14 ttl=116 time=50.6 ms
64 bytes from del11s21-in-x0e.1e100.net (2404:6800:4002:82c::200e): icmp_seq=15 ttl=116 time=47.7 ms
--- google.com ping statistics --
15 packets transmitted, 15 received, 0% packet loss, time 14025ms
rtt min/avg/max/mdev = 43.693/58.608/115.650/17.158 ms
```

TRACERT

```
codefreak@x515da: ~
                                                                                                                   Q =
/imal_Joshi@x515da:~$ traceroute google.com
raceroute to google.com (142.250.206.174), 30 hops max, 60 byte packets
1 _gateway (192.168.96.133) 34.748 ms 34.734 ms 34.860 ms
3 10.71.83.18 (10.71.83.18) 98.587 ms 98.642 ms 10.71.83.2 (10.71.83.2) 98.822 ms
  172.26.100.120 (172.26.100.120) 89.660 ms 90.684 ms 90.955 ms
  172.26.100.102 (172.26.100.102) 98.462 ms 172.26.100.103 (172.26.100.103) 96.526 ms 172.26.100.102 (172.26.100.102) 101.738 ms
6 192.168.44.22 (192.168.44.22) 98.896 ms 41.051 ms 41.152 ms
  * * *
9 * * *
  * 72.14.195.34 (72.14.195.34) 51.257 ms 142.250.168.56 (142.250.168.56) 41.782 ms
  * * 108.170.251.113 (108.170.251.113) 62.498 ms
12 142.251.76.203 (142.251.76.203) 47.908 ms 108.170.251.123 (108.170.251.123) 27.312 ms 108.170.251.107 (108.170.251.107) 42.961 ms
3 108.170.251.123 (108.170.251.123) 40.520 ms 108.170.251.107 (108.170.251.107) 39.101 ms 142.251.76.201 (142.251.76.201) 40.749 ms
   74.125.244.193 (74.125.244.193) 38.455 ms 142.251.76.201 (142.251.76.201) 39.375 ms 51.600 ms
15 del11s22-in-f14.1e100.net (142.250.206.174) 30.643 ms 39.380 ms 142.251.76.201 (142.251.76.201) 37.773 ms
/imal_Joshi@x515da:~$
```

NETSTAT -r

Vimal_Joshi@x515da:~\$ netstat −r Kernel IP routing table									
Destination	Gateway	Genmask	Flags	MSS Window	irtt Iface				
default	_gateway	0.0.0.0	UG	0 0	0 wlp1s0				
link-local	0.0.0.0	255.255.0.0	U	0 0	0 wlp1s0				
192.168.96.0	0.0.0. <u>0</u>	255.255.255.0	U	0 0	0 wlp1s0				

NETSTAT -a

```
Vimal_Joshi@x515da:~$ netstat -a
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address
                                             Foreign Address
                                                                     State
                  0 localhost:33060
                                            0.0.0.0:*
tcp
           0
                                                                     LISTEN
          0
                  0 localhost:ipp
                                            0.0.0.0:*
tcp
                                                                     LISTEN
                  0 localhost:mysql
          0
                                            0.0.0.0:*
                                                                     LISTEN
tcp
          0
                  0 localhost:27017
                                            0.0.0.0:*
tcp
                                                                     LISTEN
          0
                  0 localhost:domain
                                            0.0.0.0:*
                                                                     LISTEN
tcp
          0
                  0 x515da:33802
                                            91.108.56.105:https
                                                                     ESTABLISHED
tcp
          0
                 0 x515da:34950
                                            91.108.56.126:https
                                                                     ESTABLISHED
tcp
                                            91.108.23.100:https
tcp
          0
                 0 x515da:43704
                                                                     ESTABLISHED
tcp
          0
                 0 x515da:36840
                                            ec2-54-89-159-71.:https ESTABLISHED
          0
tcp6
                 0 ip6-localhost:ipp
                                            [::]:*
                                                                     LISTEN
                 0 [::]:1716
           0
tcp6
                                            Γ::]:*
                                                                     LISTEN
                 0 x515da:33766
                                            2600:1900:4110:86f:http CLOSE_WAIT
tcp6
tcp6
          0
                 0 x515da:39904
                                             2600:1901:1:b05:::https ESTABLISHED
tcp6
          0
                 0 x515da:48344
                                             2600:1901:1:916:::https TIME_WAIT
          0
tcp6
                 0 x515da:38138
                                            2600:1901:1:c36:::https TIME_WAIT
          0
                 0 x515da:38124
                                            2600:1901:1:c36:::https TIME_WAIT
tcp6
          0
                 0 x515da:38140
                                            2600:1901:1:c36:::https TIME_WAIT
tcp6
tcp6
          0
                 0 x515da:51282
                                            si-in-f188.1e100.n:5228 ESTABLISHED
          0
                                            2a04:4e42:42::760:https ESTABLISHED
tcp6
                 0 x515da:50414
          0
                 0 x515da:47026
                                            2a04:4e42:42::760:https ESTABLISHED
tcp6
          0
                 0 x515da:48506
                                            2a04:4e42:42::760:https ESTABLISHED
tcp6
          0
                 0 0.0.0.0:631
                                            0.0.0.0:*
udp
                 0 224.0.0.251:mdns
          0
                                            0.0.0.0:*
udp
udp
          0
                 0 0.0.0.0:mdns
                                            0.0.0.0:*
udp
          0
                  0 0.0.0.0:58642
                                            0.0.0.0:*
udp
          0
                  0 localhost:domain
                                            0.0.0.0:*
                                             _gateway:bootps
qbu
          0
                  0 x515da:bootpc
                                                                     ESTABLISHED
udp6
          0
                  0 [::]:mdns
                                             [::]:*
                                            [::]:*
                  0 [::]:1716
Jdp6
          0
                  0 [::]:52958
                                            [::]:*
udp6
          0
                 0 [::]:ipv6-icmp
гам6
          0
                                            [::]:*
Active UNIX domain sockets (servers and established)
                                                   I-Node
Proto RefCnt Flags
                         Type
                                    State
                                                            Path
                         DGRAM
                                                   51470
                                                            /run/user/1000/systemd/notify
unix 2
```

unix	2	[ACC]	STREAM	LISTENING	51478	/run/user/1000/bus
	2	Γ ACC 1	STREAM	LISTENING	51479	/run/user/1000/gnupg/S.dirmngr
unix	2	r ACC i	STREAM	LISTENING	49020	@/tmp/.ICE-unix/7492
	2	r ACC i	STREAM	LISTENING	51480	/run/user/1000/gnupg/S.gpg-agent.browser
	2	[ACC]	STREAM	LISTENING	51481	/run/user/1000/gnupg/S.gpg-agent.extra
unix	2	Γ ACC 1	STREAM	LISTENING	51482	/run/user/1000/gnupg/S.gpg-agent.ssh
unix	2	[ACC]	STREAM	LISTENING	51483	/run/user/1000/gnupg/S.gpg-agent
unix	2	r ACC i	STREAM	LISTENING	51484	/run/user/1000/pk-debconf-socket
unix	2	r ACC i	STREAM	LISTENING	51485	/run/user/1000/pulse/native
	2	[ACC]	STREAM	LISTENING	48023	Q/tmp/dbus-QrUXwBj6
	2	[ACC]	STREAM	LISTENING	51486	/run/user/1000/snapd-session-agent.socket
	2	Ī ACC Ī	STREAM	LISTENING	53532	@/tmp/.X11-unix/X0
unix	2	r ACC i	STREAM	LISTENING	43411	/var/run/mysqld/mysqlx.sock
unix	2	[ACC]	STREAM	LISTENING	48765	/run/user/1000/keyring/control
unix	2	[ACC]	STREAM	LISTENING	50925	@/tmp/dbus-pr875ScFu0
unix	2	[ACC]	STREAM	LISTENING	53533	/tmp/.X11-unix/X0
unix	2	r ACC 1	STREAM	LISTENING	43419	/var/run/mysqld/mysqld.sock
unix	2	[ACC]	STREAM	LISTENING	41754	@/tmp/dbus-LElH0xd1
unix		[]	DGRAM	CONNECTED	18257	/run/systemd/notify
unix	2	[ACC]	STREAM	LISTENING	18260	/run/systemd/private
unix	2	[ACC]	STREAM	LISTENING	18262	/run/systemd/userdb/io.systemd.DynamicUser
unix	2	[ACC]	STREAM	LISTENING	42145	/run/mongodb/mongodb-27017.sock
unix	2	[]	DGRAM		18271	/run/systemd/journal/syslog
unix		[ACC]	STREAM	LISTENING	18273	/run/systemd/fsck.progress
unix	19	[]	DGRAM	CONNECTED	18281	/run/systemd/journal/dev-log
unix	2	[ACC]	STREAM	LISTENING	18283	/run/systemd/journal/stdout
unix	8	[]	DGRAM	CONNECTED	18285	/run/systemd/journal/socket
unix		[ACC]	SEQPACKET	LISTENING	18287	/run/udev/control
unix		[ACC]	STREAM	LISTENING	51773	/run/user/1000/keyring/pkcs11
unix	2	[ACC]	STREAM	LISTENING	51796	/run/user/1000/keyring/ssh
unix	2	[ACC]	STREAM	LISTENING	48024	@/tmp/dbus-NuYj4ciu
unix	2	[ACC]	STREAM	LISTENING	49021	/tmp/.ICE-unix/7492
unix	2	[ACC]	STREAM	LISTENING	74257	/tmp/14f640018a896e6cb01745560eaf7e65-{87A94AB0-E370-4cde-98D3-ACC110C5967D}
unix		[ACC]	STREAM	LISTENING	54469	/tmp/ssh-tIjNMoWtyNev/agent.7360
unix	2	[ACC]	STREAM	LISTENING	21060	/run/systemd/journal/io.systemd.journal
unix	2	[ACC]	STREAM	LISTENING	99961	/tmp/.com.google.Chrome.8lvVr5/SingletonSocket
unix	2	[ACC]	STREAM	LISTENING	41755	@/tmp/dbus-FfxBWrrE
unix	2	[ACC]	STREAM	LISTENING	78448	/tmp/OSL_PIPE_1000_SingleOfficeIPC_d54d32658885ebff462da4196e901dc9

unıx	3	LJ	STREAM	CONNECTED	76702	
unix	3	įί	STREAM	CONNECTED	55779	/run/user/1000/bus
unix	3	įį	STREAM	CONNECTED	45984	
unix	3	įį	STREAM	CONNECTED	35328	
unix	3	įį	STREAM	CONNECTED	101947	
unix	3	įί	STREAM	CONNECTED	54161	/run/user/1000/bus
unix	3	įį	STREAM	CONNECTED	55500	
unix	3	įį	STREAM	CONNECTED	33594	/run/dbus/system_bus_socket
unix	3	įį	STREAM	CONNECTED	56631	, , , , = =
unix	3	įį	STREAM	CONNECTED	27527	/run/dbus/system_bus_socket
unix	3	ίĵ	STREAM	CONNECTED	51908	
unix	3	įξ	STREAM	CONNECTED	54709	/run/user/1000/bus
unix	3	į į	STREAM	CONNECTED	56781	/run/user/1000/pulse/native
unix	3	ĒĪ	STREAM	CONNECTED	59757	/run/systemd/journal/stdout
unix	3	ĒĪ	STREAM	CONNECTED	97859	/run/user/1000/bus
unix	3	[]	STREAM	CONNECTED	100537	
unix	3	[]	STREAM	CONNECTED	78451	
unix	3	ĒĴ	STREAM	CONNECTED	55510	/run/dbus/system_bus_socket
unix	3		STREAM	CONNECTED	21110	/run/systemd/journal/stdout
unix	3		STREAM	CONNECTED	60627	@/tmp/.X11-unix/X0
unix	3	[]	STREAM	CONNECTED	60572	/run/dbus/system_bus_socket
unix	3	[]	STREAM	CONNECTED	96832	
unix	3	[]	SEQPACKET	CONNECTED	92962	
unix	3	[]	STREAM	CONNECTED	54814	/run/user/1000/bus
unix	3	[]	STREAM	CONNECTED	59466	/run/dbus/system_bus_socket
unix	3	[]	STREAM	CONNECTED	49062	
unix	3	[]	STREAM	CONNECTED	49055	
unix	3	[]	STREAM	CONNECTED	111678	@/tmp/.X11-unix/X0
unix	3	[]	STREAM	CONNECTED	56483	
unix	3		STREAM	CONNECTED	54694	
unix	3	[]	STREAM	CONNECTED	48782	/run/user/1000/bus
unix	3	[]	STREAM	CONNECTED	45902	/run/systemd/journal/stdout

```
unıx
                          SIREAM
                                     CONNECTED
                                                    48816
                                                             /run/dbus/system_bus_socket
                                                             /run/systemd/journal/stdout
unix
                          STREAM
                                     CONNECTED
                                                    51457
unix
                                                    40052
                          STREAM
                                     CONNECTED
                                                             /run/dbus/system_bus_socket
unix
                          STREAM
                                     CONNECTED
                                                    97857
                                                             @/tmp/.X11-unix/X0
unix 3
               ]
                          STREAM
                                     CONNECTED
                                                    99947
unix 3
                          STREAM
                                     CONNECTED
                                                    58490
                                                             @/tmp/.X11-unix/X0
               ]]]]]
unix 3
                          STREAM
                                     CONNECTED
                                                    54164
                                                             /run/user/1000/bus
unix 3
                                                    48351
                                                             /run/systemd/journal/stdout
                          STREAM
                                     CONNECTED
                                                    54030
                          STREAM
                                     CONNECTED
                                                             /run/systemd/journal/stdout
                                     CONNECTED
                                                    43541
                          STREAM
unix 3
                                                    55487
                          STREAM
                                     CONNECTED
                                     CONNECTED
                                                    53859
                                                             @/home/codefreak/.cache/ibus/dbus-MLBmXj
                          STREAM
unix 3
                                                    60971
                          STREAM
                                     CONNECTED
                                                             /run/systemd/journal/stdout
unix 3
                          STREAM
                                     CONNECTED
                                                    53159
unix 3
                          STREAM
                                     CONNECTED
                                                    46904
                                                             /run/dbus/system_bus_socket
unix 3
                          STREAM
                                     CONNECTED
                                                    51498
unix 3
                          STREAM
                                     CONNECTED
                                                    37220
                                                             /run/systemd/journal/stdout
unix
                          STREAM
                                     CONNECTED
                                                    60673
                                                             /run/dbus/system_bus_socket
unix
                          STREAM
                                     CONNECTED
                                                    108153
                                                             /run/user/1000/bus
unix
                          STREAM
                                     CONNECTED
                                                    75580
                                                             /run/dbus/system_bus_socket
unix
             Е
                          STREAM
                                     CONNECTED
                                                    57637
                                                             @/tmp/.X11-unix/X0
unix
             Е
                          STREAM
                                     CONNECTED
                                                    57552
                                                             /run/systemd/journal/stdout
unix
             Е
                          STREAM
                                     CONNECTED
                                                    51837
                                                             /run/dbus/system_bus_socket
xinu
                          STREAM
                                     CONNECTED
                                                    48800
Jnix
                          STREAM
                                     CONNECTED
                                                    86323
                                                             /run/user/1000/pulse/native
unix
                          STREAM
                                     CONNECTED
                                                    82300
                                                             @/dbus-vfs-daemon/socket-MQzmeLkm
                                                             /run/user/1000/bus
unix
                          STREAM
                                     CONNECTED
                                                    48801
                                     CONNECTED
                                                    54788
                                                             /run/user/1000/bus
unix
                          STREAM
                                                    50308
unix
                          STREAM
                                     CONNECTED
                                                    42307
unix
                          DGRAM
                                     CONNECTED
unix
                          STREAM
                                     CONNECTED
                                                    97112
unix
                          STREAM
                                     CONNECTED
                                                    74255
                                                             @/home/codefreak/.cache/ibus/dbus-MLBmXj
                                     CONNECTED
                                                    56712
unix
                          STREAM
unix 3
                                     CONNECTED
                                                    32076
                          STREAM
unix 3
                          STREAM
                                     CONNECTED
                                                    101614
               ]
unix 3
                          STREAM
                                     CONNECTED
                                                    77039
unix
                          STREAM
                                     CONNECTED
                                                    52017
                                                             /run/systemd/journal/stdout
unix 3
                          STREAM
                                     CONNECTED
                                                    52014
```

```
Vimal_Joshi@x515da:~$ ping 157.240.208.174
PING 157.240.208.174 (157.240.208.174) 56(84) bytes of data.
64 bytes from 157.240.208.174: icmp_seq=1 ttl=45 time=135 ms
64 bytes from 157.240.208.174: icmp_seq=2 ttl=45 time=140 ms
64 bytes from 157.240.208.174: icmp_seq=3 ttl=45 time=133 ms
64 bytes from 157.240.208.174: icmp_seq=4 ttl=45 time=123 ms
64 bytes from 157.240.208.174: icmp_seq=5 ttl=45 time=133 ms
64 bytes from 157.240.208.174: icmp_seq=6 ttl=45 time=132 ms
64 bytes from 157.240.208.174: icmp_seq=7 ttl=45 time=132 ms
64 bytes from 157.240.208.174: icmp_seq=8 ttl=45 time=130 ms
64 bytes from 157.240.208.174: icmp_seq=9 ttl=45 time=131 ms
64 bytes from 157.240.208.174: icmp_seq=10 ttl=45 time=119 ms
^C
 10 packets transmitted, 10 received, 0% packet loss, time 9004ms
rtt min/avg/max/mdev = 119.464/130.864/140.232/5.505 ms
```

Q3: Create an HTML page that shows information about you, your course, hobbies, address, and your plans. Use CSS for styling of HTML page so that looks nice.

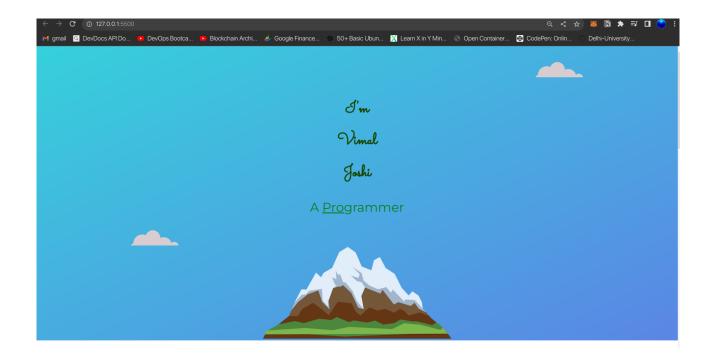
HTML Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
Kmeta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Vimal Joshi</title>
<link rel="icon" type="image/x-icon" href="favicon.ico?v=2">
<link rel="preconnect" href="https://fonts.googleapis.com">
<link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
<link href="https://fonts.googleapis.com/css2?</pre>
family=Merriweather&family=Montserrat&family=Sacramento&display=swap"
rel="stylesheet">
</head>
<body>
<div class="top-container">
<img class="top-cloud" src="images/cloud.png" alt="CloudImg">
<h1>I'm Vimal Joshi</h1>
<h2> A <span class="sean">Pro</span>grammer</h2>
<img class="bottom-cloud" src="images/cloud.png"
<img src="images/mountain.png" alt="MountImg">
                                                   'alt="CloudImg">
</div>
<div class="middle-container">
<div class="profile">
<img class="myimg" src="images/MyImg.png" alt="DP">
<h2>Hello.</h2>
>
Myself Vimal Joshi, a student of Ramanujan college.<br>
Doing my majors in Computer science<br>
This website is made by me<br>
</div>
<hr>
<div class="skills">
<h2>My Skills.</h2>
<div class="skill-row">
<img class="devimg" src="images/devops.png" alt=""><br>
<h3>Dev0ps</h3>
Installation and configuration of linux server, Migration to AWS, CICD Integrations,
Sourcecode migration from Github to Gitlab
</div>
<div class="skill-row">
<img class="compimg" src="images/hackathon.png" alt=""><br>
<h3>competitive programming</h3>
Solved 100+ questions on different coding platforms.
√div>
```

```
cimg class="webimg" src="images/coding.png" alt=""><br>
<h3>Web developer</h3>
>
Still learning web development made various small projects.
√div>
</div>
<hr>
<div class="contact-me">
<h2>Get In Touch</h2><br>
<h3>If you liked my work</h3><br>
>
You can contact me by clicking following links
<br>
<a class="btn" href="mailto:vimaljoshi8860@gmail.com">CONTACT ME</a>
</div>
<br>
<br>
√div>
cdiv class="bottom-container">
<a class="footer-link" href="https://www.linkedin.com/in/vimal-joshi-95b9321a8">LinkedIn</a>
<a class="footer-link" href="https://twitter.com/ItsVimalJoshi">Twitter</a>
<a class="footer-link" href="https://www.vimaljoshi.com">Website</a>
© 2022 Vimal Joshi.
</div>
</body>
</html>
CSS Code:
body {
margin: 0;
text-align: center;
font-family: 'Merriweather', serif;
div {
background-color: white;
 ont-size: 1.5rem;
font-size: 3.15rem;
width: 10%;
margin: 0 auto 0 auto;
font-family: 'Sacramento', cursive;
margin: 50px auto 0 auto;
color: #174803;
 ine-height: 2;
```

```
font-family: 'Montserrat', sans-serif;
font-size: 2.5rem;
color: #08801a;
font-weight: normal;
font-family: 'Montserrat', sans-serif;
color: #11999E;
color: #11999E;
top-container {
/* background-color: rgba(28, 216, 240, 0.963); */
background-image: linear-gradient(to bottom right,#36d1dc,#5b86e5);
position: relative;
padding-top: 100px;
.middle-container{
padding-top: 60px;
.bottom-container {
background-color: #014949;
padding: 50px 0 50px 0;
background-color: black;
text-decoration: underline;
top-cloud {
position: absolute;
right: 300px;
op: 50px;
.bottom-cloud {
position: absolute;
left: 300px;
bottom: 300px;
.skill-row {
width: 50%;
margin: 100px auto 100px auto;
text-align: left;
ine-height: 2;
width: 2<mark>5%;</mark>
float: left;
margin-right: 30px;
width: 25%;
float: right;
```

```
margin-left: 30px;
 width: 2<mark>5%;</mark>
 float: left;
  margin-right: <mark>30</mark>px;
 .myimg {
 border-radius: 50%;
width: 15%
 .btn {
 background: #11cdd4;
background: #11cdd4;
background-image: -webkit-linear-gradient(top, #11cdd4, #11999e);
background-image: -moz-linear-gradient(top, #11cdd4, #11999e);
background-image: -ms-linear-gradient(top, #11cdd4, #11999e);
background-image: -o-linear-gradient(top, #11cdd4, #11999e);
background-image: linear-gradient(to bottom, #11cdd4, #11999e);
-webkit-border-radius: 8;
  -moz-border-radius: 8;
 border-radius: <mark>8</mark>px;
 font-family: Arial;
 color: #ffffff;
 font-size: 20px;
 padding: 10px 20px 10px 20px;
 text-decoration: none;
 background: #30e3cb;
background: #30e3cb;
background-image: -webkit-linear-gradient(top, #30e3cb, #2bc4ad);
background-image: -moz-linear-gradient(top, #30e3cb, #2bc4ad);
background-image: -ms-linear-gradient(top, #30e3cb, #2bc4ad);
background-image: -o-linear-gradient(top, #30e3cb, #2bc4ad);
background-image: linear-gradient(to bottom, #30e3cb, #2bc4ad);
  text-decoration: none;
  .vimal-joshi-bottom{
 color: #EAF6F6;
OUTPUT:
```





Hello.

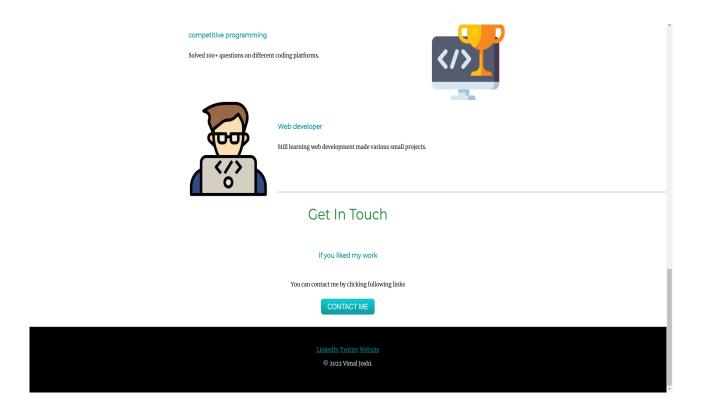
Myself Vimal Joshi, a student of Ramanujan college. Doing my majors in Computer science This website is made by me

My Skills.



DevOps

 $In stall ation \ and \ configuration \ of \ linux \ server, Migration \ to \ AWS, CICD \ Integrations, Source code \ migration \ from \ Github \ to \ Gitlab$



Q4: Create an HTML page with the sole purpose to show multiplication tables of 2 to 10 (row-wise) created by JavaScript. Initially, the page is blank. With help of setInterval function print a row every 5 seconds in different colors and increasing font size.

```
<!DOCTYPE html>
<html>
<head>
<title>Practical 4</title>
<meta charset="utf-8">
<style type="text/css">
table{
border: 1px solia black;
border-collapse: collapse;
width: 80%;
margin: auto;
}
td,th{
border: 1px solia black;
padding: 5px;
/* border-collapse: collapse; */
}
.center{
text-align: center;
}
</style>
</head>
<body>
<h1>Printing Table from 2 to 10</h1>

</table
```

```
<script type="text/javascript">
function getRandomColor() {
var letters = '0123456789ABCDEF';
var color = '#';
for (var i = 0; i < 6; i++) {</pre>
color += letters[Math.floor(Math.random() * 16)];
 return color;
 var tbl = document.getElementById('content');
 var number = 2;
 var abc = setInterval(printrow,5000);
 unction printrow(){
 if (number = 10)
 learInterval(abc);
var result = "";
for(var i = 1; i ≤ 10; i++){
result = result + ""+ number + "*" + i + "=" + number * i+"";
roumber++;
var row = document.createElement('tr');
row.style.color= getRandomColor();
row.style.fontSize = (number+10)+"px";
row.innerHTML=result;
tbl.append(row);
}
</script>
 </body>
 </html>
```

Output:

Printing Table from 2 to 10

10*1=10	10*2=20	10*3=30	10*4=40	10*5=50	10*6=60	10*7=70	10*8=80	10*9=90	10*10=100
9*1=9	9*2=18	9*3=27	9*4=36	9*5=45	9*6=54	9*7=63	9*8=72	9*9=81	9*10=90
8*1=8	8*2=16	8*3=24	8*4=32	8*5=40	8*6=48	8*7=56	8*8=64	8*9=72	8*10=80
7*1=7	7*2=14	7*3=21	7*4=28	7*5=35	7*6=42	7*7=49	7*8=56	7*9=63	7*10=70
6*1=6	6*2=12	6*3=18	6*4=24	6*5=30	6*6=36	6*7=42	6*8=48	6*9=54	6*10=60
5*1=5	5*2=10	5*3=15	5*4=20	5*5=25	5*6=30	5*7=35	5*8=40	5*9=45	5*10=50
4*1=4	4*2=8	4*3=12	4*4=16	4*5=20	4*6=24	4*7=28	4*8=32	4*9=36	4*10=40
3*1=3	3*2=6	3*3=9	3*4=12	3*5=15	3*6=18	3*7=21	3*8=24	3*9=27	3*10=30
2*1=2	2*2=4	2*3=6	2*4=8	2*5=10	2*6=12	2*7=14	2*8=16	2*9=18	2*10=20

Q5: Create an HTML page with a paragraph written on it and under which 9 buttons are placed in a 3X3 grid. The first row is for buttons labeled with colors names Red, Green, and Blue, the second row with numbers 10, 20, 30, and the third row with different font names. Click event of each of the buttons should make the appropriate change in the style of paragraph.

```
<!DOCTYPE html>
<html>
<head>
<title>Practical 5</title>
<meta charset="utf-8">

<style type="text/css">
.btn-box {
display: flex;
flex-wrap: wrap;
justify-content: space-arouno;
border: 1px solia black;
padding: 10px;
}

.color,
.fontSize,
.fontStyle {
width: 30%;
min-width: 350px;
height: 35px;
/*margin: auto;*/
margin-bottom: 10px;
border: 1px solia #F3F1F5;
```

```
box-shadow: 4px 4px 5px #2dcfec;
border-radius: 10px;
color: #F3F1F5;
background-color: #0dd28d;
font-weight: bolder;
font-size: 20px;
<∕style>
</head>
<h1>Practical no. 5: Action on clicking the buttons</h1>
'A moment of happiness, you and I sitting on the verandah, apparently two, but one in soul, you
and I. We feel the flowing water of life here, you and I, with the garden's beauty and the
birds singing. The stars will be watching us, and we will show them what it is to be a thin
crescent moon. You and I unselfed, will be together, indifferent to idle speculation, you and
I. The parrots of heaven will be cracking sugar as we laugh together, you and I. In one form
upon this earth, and in another form in a timeless sweet land."
<button class="color">Red</button>
<button class="color">Blue</button>
<button class="color">Green</button>
</div>
<div class="btn-box">
<button class="fontSize">10</button>
<button class="fontSize">20</button>
cbutton class="fontSize">30
button class="fontSize">30

√div>
<div class="btn-box">
sbutton class="fontStyle">'Courier New', monospace/button>
cbutton class="fontStyle">'Brush Script MT', cursive</putton>
cbutton class="fontStyle">Verdana, sans-serif/button>
</div>
<script type="text/javascript">
var colors = document.getElementsByClassName("color");
var fontSizes = document.getElementsByClassName("fontSize");
var element = document.getElementById('container');
 or (var i = 0; i < colors.length; i++) {
colors[i].addEventListener('click', changeColor);
   (var i = 0; i < fontSizes.length; i++) {</pre>
fontSizes[i].addEventListener('click', changeFontSize);
                i < fontStyles.length; i++) {</pre>
fontStyles[i].add
                        istener('click', changeFontStyle);
function changeColor() {
element.style.color = this.innerHTML;
```

function changeFontSize() {

```
// console.log(this.innerHTML);
element.style.fontSize = this.innerHTML + "px";
}

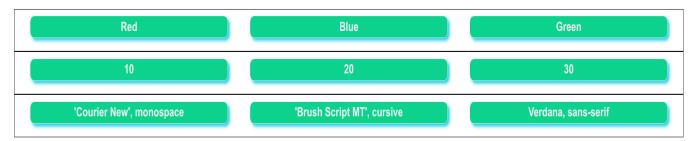
function changeFontStyle() {
   // console.log(this.innerHTML);
element.style.fontFamily = this.innerHTML;
}

</script>
</body>
</html>

OUTPUT:
```

Practical no. 5: Action on clicking the buttons

"A moment of happiness, you and I sitting on the verandah, apparently two, but one in soul, you and I. We feel the flowing water of life here, you and I, with the garden's beauty and the birds singing. The stars will be watching us, and we will show them what it is to be a thin crescent moon. You and I unselfed, will be together, indifferent to idle speculation, you and I. The parrots of heaven will be cracking sugar as we laugh together, you and I. In one form upon this earth, and in another form in a timeless sweet land."



Question 6: Create a form that takes data about a pet. The form must be well designed and should accept the pet's name, age, weight, type, and what it likes most. At the submission of this form create a Pet object in JavaScript filled with these values and log that object and equivalent JSON on the console.


```
}
```

```
.btn-submit {
border-radius: 5px;
color: rgb(0, 132, 255);
background: rgb(243, 154, 154);
font-weight: bola;
 font-size: 1rem;
 margin: 20px;
Dmedia(width≤575) {
 .container {
 width: 84%;
 √style>
 </head>
 <body>
 <div class="container">
 <h1>PET'S DATABASE</h1>
 <label for="name">Pet's Name: </label>
 <input type="text" name="name"><br><br><</pre>
<label for="age">Age: </label>
<input type="number" name="age"><br><br>
 <label for="weight">Weight: </label>
 <input type="number" name="weight" class=""><br><<br>
 <label for="type">Pet type: </label>
 <input type="text" name="type"><br><<br>
 <label for="likes">Likes: </label>
<input type="text" name="likes"><br>
 <button class="btn-submit" onclick="display()">Submit</button>
 </div>
<script type="text/javascript">
 function display() {
   event.preventDafault();
var pet = {};
 var input_fields = document.getElementsByTagName('input');
 for (var i = 0; i < input_fields.length; i++) {
pet[input_fields[i].name] = input_fields[i].value;
console.log(pet);
}
</script>
</body>
</html>
```

OUTPUT:

\leftarrow \rightarrow \mathbf{C} (\odot 127.0.0.1:5500/inde	ex.html						< ☆) 🕱 🖾 🖈 🖹	□ 😍 :
M gmail ☐ DevDocs API Do ■	DevOps Bootca	Blockchain Archi	🙏 Google Finance	 50+ Basic Ubun 	X Learn X in Y Min	Open Container	OdePen: Onlin	Delhi-University	
	PET'	S DATABA	SE						
	Pet's Name	::							
	Age:								
	Weight:								
	Pet type:								
	Likes:								
	Subm	nit							

Question 7: Store JSON data of few pets that you created in previous practical in a JSON file (copy from console output of previous program to a .json file). Using AJAX, load data from the file and display it in a presentable way using HTML and CSS.

Sol:

html file

```
<!DOCTYPE html>
<html>
<head>
<meta charset="utf-8">
<title>Practical 7</title>
<style type="text/css">
#pet-data{
oorder: 1px solia black;
porder-radius: 10px;
oorder-collapse: collapse;
porder: 1px solia black;
oorder-collapse: collapse;
#btn-fetch{
margin-top: 20px;
font-size: 24px;
font-weight: bola;
oackground-color: black;
color: white;
oorder-radius: 8px;
</style>
</head>
<body>
Title
td>Body -
  — Type</ra>
```

```
/tbody>
 ⟨/table> →
<div id="content">
</div>
 button id="btn-fetch">Fetch Data</button>
 script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>
<script type="text/javascript">
    $("#btn-fetch").click(function(){
  type: "Get",
url: "https://jsonplaceholder.typicode.com/posts",
 // dataType: "json",
   success: function(result){
 // console.log(result);
var btnFetch = document.getElementById('btn-fetch');
var content = document.getElementById('content');
btnFetch.addEventListener('click', ()⇒{
const xhr = new XMLHttpRequest();
xhr.open("GET",'/pet.json',true);
xhr.onload = ()⇒{
console.log(xhr.responseText);
 renderHtml(JSON.parse(xhr.responseText));
xhr.send();
});
function renderHtml(data){
function renderHtml(data){
content.innerHTML = "";
for (var i = 0; i ≤ data.length; i++) {
  let p = document.createElement('p');
  let htmlpart = "";
  htmlpart += data[i].name+" is a "+data[i].type+" with age "+data[i].age+" years and weight
  "+data[i].weight+"kg and likes "+data[i].likes;
  p.innerHTML = htmlpart;
content.append(p);
// concele log(tr)+
 // console.log(tr);
htmlpart="";
}
</script>
</body>
</html>
```

json file:

```
name":"Pluto",
"age":3,
"weight":12,
"type":"Pavellion",
"likes":"eating, playing with ball"
!
"name":"Hulk",
"age":4,
"weight":22,
"type":"German Sefford",
"likes":"Biting, eating flesh"
"name":"Jerry",
"age":2.5,
"weight":8,
"type":"cat",
"likes":"sleeping"
name":"Tom",
"age":0.5,
"weight":0.7,
"type":"Mouse",
"likes":"running, eating cheese"
name":"Chiku",
"age":1,
age .1,
"weight":1.2,
"type":"Rabbit",
"likes":"running, eating carrot"
```

Output:



Pluto is a Pavellion with age 3 years and weight 12kg and likes eating, playing with ball

Hulk is a German Sefford with age 4 years and weight 22kg and likes Biting, eating flesh

Jerry is a cat with age 2.5 years and weight 8kg and likes sleeping

Tom is a Mouse with age 0.5 years and weight 0.7kg and likes running, eating cheese

Chiku is a Rabbit with age 1 years and weight 1.2kg and likes running, eating carrot

Fetch Data

Question 8:

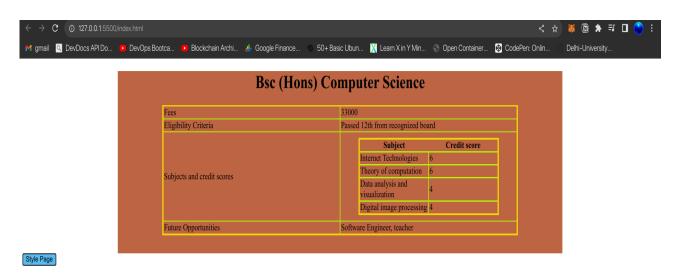
Create a plain HTML page for B.Sc. Hons CS course, mentioning details like fee, eligibility criteria, papers with names and credits, and future possibilities after the course. A button for styling should be there at bottom of the page. On clicking on this button JavaScript should redesign the complete page using jQuery in a nice presentable way.

```
<!DOCTYPE html>
<html>
<head>
<meta charset="utf-8">
<title>Practical 8</title>
<style type="text/css">
.container {
width: 70%;
margin: auto;
align-items: center;
background-color: #bd6443;
padding-bottom: 10px;
}
```

```
width: 80%;
margin: auto;
border: 3px solia rgb(238, 214, 3);
border-collapse: collapse;
margin-top: 2%;
margin-bottom: 2%;
width: 100%;
margin: auto;
.table-data {
width: 50%;
border: 2px solia rgb(176, 244, 4);
border-collapse: collapse;
#btn-style{
background-color : rgb(87, 187, 241);
color: rgb(0, 0, 0);
<∕style>
</head>
<body>
<div>
<h1 class="heading">Bsc (Hons) Computer Science</h1>
Fees
33000
Eligibility Criteria
Passed 12th from recognized board
Subjects and credit scores
Subject
Credit score
Internet Technologies
6
Theory of computation
6
Data analysis and visualization
4
Digital image processing
4
```

```
:/tr>
Future Opportunities
Software Engineer, teacher
</div>
<button id="btn-style">
Style Page
 script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>
<script type="text/javascript":</pre>
 G(document).ready(function () {
 6('#btn-style').click(function () {
$("div").addClass('container');
 6("table").addClass('info-table');
("tr").addClass('table-row');
 6("td").addClass('table-data');
(".heading").css({
 /script>
</body>
</html>
```

OUTPUT:



Question 9:

code:

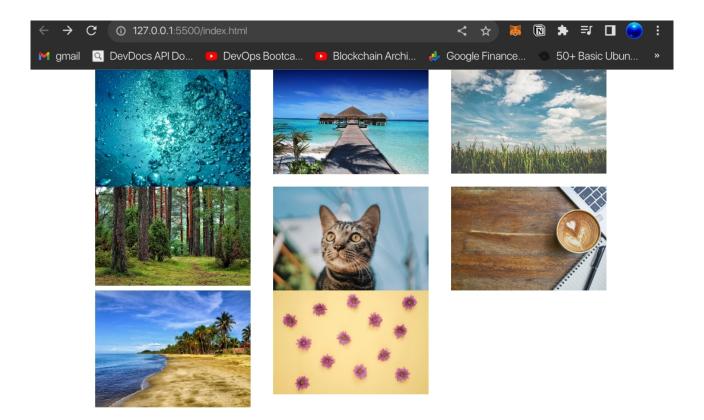
<!doctype html>

```
<html lang="en">
<head>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
clink href="//maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/bootstrap.min.css" rel="stylesheet"
id="bootstrap-css">
<script src="//maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/bootstrap.min.js"></script>
script src="//cdnjs.cloudflare.com/ajax/libs/jquery/3.2.1/jquery.min.js"></script>
</head>
<body>
<link rel="stylesheet"</pre>
nref="//cdnjs.cloudflare.com/ajax/libs/fancybox/2.1.5/jquery.fancybox.min.css"
 edia="screen">
 script src="//cdnjs.cloudflare.com/ajax/libs/fancybox/2.1.5/jquery.fancybox.min.js"></script>
<div class="container page-top">
<div class="row">
div class="col-lg-3 col-md-4 col-xs-6 thumb">
a href="https://images.pexels.com/photos/62307/air-bubbles-diving-underwater-blow-62307.jpeg;
auto=compress&cs=tinysrgb&h=650&w=940"
class="fancybox" rel="ligthbox">
<img src="https://images.pexels.com/photos/62307/air-bubbles-diving-underwater-blow-62307.jpeg?
auto=compress&cs=tinysrgb&h=650&w=940"
class="zoom img-fluid " alt="">
√div>
<div class="col-lg-3 col-md-4 col-xs-6 thumb">
ka href="https://images.pexels.com/photos/38238/maldives-ile-beach-sun-38238.jpeg?
auto=compress&cs=tinysrgb&h=650&w=940"
class="fancybox" rel="ligthbox">
<img src="https://images.pexels.com/photos/38238/maldives-ile-beach-sun-38238.jpeg?</pre>
auto=compress&cs=tinysrgb&h=650&w=940"
class="zoom img-fluid" alt="">
</a>
</div>
<div class="col-lg-3 col-md-4 col-xs-6 thumb">
ka href="https://images.pexels.com/photos/158827/field-corn-air-frisch-158827.jpeg?
class="fancybox" rel="ligthbox">
ximg src="https://images.pexels.com/photos/158827/field-corn-air-frisch-158827.jpeg?
auto=compress&cs=tinysrgb&dpr=2&h=650&w=940"
class="zoom img-fluid " alt="">
</a>
√div>
div class="col-lg-3 col-md-4 col-xs-6 thumb">
ka href="https://images.pexels.com/photos/302804/pexels-photo-302804.jpeg?
auto=compress&cs=tinysrgb&dpr=2&h=650&w=940"
class="fancybox" rel="ligthbox">
<img src="https://images.pexels.com/photos/302804/pexels-photo-302804.jpeg?
auto=compress&cs=tinysrgb&dpr=2&h=650&w=940"
```

```
<div class="col-lg-3 col-md-4 col-xs-6 thumb">
ka href="https://images.pexels.com/photos/1038914/pexels-photo-1038914.jpeg?
class="fancybox" rel="ligthbox">
<img src="https://images.pexels.com/photos/1038914/pexels-photo-1038914.jpeg?
auto=compress&cs=tinysrgb&h=650&w=940"
class="zoom img-fluid " alt="">
√a>
√div>
cdiv class="col-lg-3 col-md-4 col-xs-6 thumb">
<a href="https://images.pexels.com/photos/414645/pexels-photo-414645.jpeg?</pre>
auto=compress&cs=tinysrgb&h=650&w=940"
class="fancybox" rel="ligthbox">
<img src="https://images.pexels.com/photos/414645/pexels-photo-414645.jpeg?</pre>
auto=compress&cs=tinysrgb&h=650&w=940"
class="zoom img-fluid " alt="">
</a>
√div>
<div class="col-lg-3 col-md-4 col-xs-6 thumb">
ka href="https://images.pexels.com/photos/56005/fiji-beach-sand-palm-trees-56005.jpeg?
auto-compress&cs-tinysrgb&dpr-2&h-650&w-940"
class="fancybox" rel="ligthbox">
cimg src="https://images.pexels.com/photos/56005/fiji-beach-sand-palm-trees-56005.jpeg?
auto=compress&cs=tinysrgb&dpr=2&h=650&w=940"
</a>
</div>
<div class="col-lg-3 col-md-4 col-xs-6 thumb">
ka href="https://images.pexels.com/photos/1038002/pexels-photo-1038002.jpeg?
auto=compress&cs=tinysrgb&dpr=2&h=650&w=940"
class="fancybox" rel="ligthbox">
<img src="https://images.pexels.com/photos/1038002/pexels-photo-1038002.jpeg?
auto=compress&cs=tinysrgb&dpr=2&h=650&w=940"
class="zoom img-fluid " alt="">
<∕a>
</div>
</div>
</div>
</body>
</html>
```

 </div>

output:



Question 10:

Create an HTTP server using Node.js which handles requests on port 10000 or a free port beyond 10000. Modify the server in such a way that opening localhost:10000 will display "Hello world, This is my Node.js server" on browser.

Sol:

```
var http = require('http');

http.createServer((request,response)⇒{
  response.write("Hello World, This is my Node.js server");
  response.end();
})
.listen(10000,()⇒console.log('server started at port 10000'));
```

Quetion 11:

Create index.html file containing two forms for SignIn and SignUp. Submitting SignIn form should search for credentials in mysql database using server created in previous practical. On successful signin, a welcome page should be displayed. Submitting SignUp form should insert new entry for credentials in mysql database using server created in previous practical. On successful signup, user should be returned back to index.html.

```
<!DOCTYPE html>
<meta charset="UTF-8" />
<meta http-equiv="X-UA-Compatible" content="IE=edge" />
<meta name="viewport" content="width=device-width, initial-scale=1.0"</pre>
<title>SignIn-SignUp Form</title>
clink rel="stylesheet" href="style.css" />
</head>
<section class="container">
<h2>SignIn Form</h2>
<form class="form">
<div>
<label for="username">Username:</label>
<input type="text" id="username" placeholder="Enter username" />
<div>
<label <mark>for="password">Password:</label></mark>
cbutton class="submit-btn">Submit</button>
√form>
</section>
section class="container">
<h2>SignUp Form</h2>
<form class="form">
<div>
<label for="name">Name:</label>
<input type="text" id="name" placeholder="Enter name"</pre>
</div>
<labe
l for="email">E-mail:</label>
<input type="email" id="email" placeholder="Enter e-mail"</pre>
</div>
<label for="new-username">Username:</label>
cinput type="text" class="new-username" placeholder="Create
</div>
<div>
<labe
l for="new-password">Password:</label>
<input type="password" id="new-password" placeholder="Enter password" />
√div>
```

```
<div>
 <label for="re-password">Password (confirm):</label>
<input type="password" id="re-password" placeholder="Enter password again" />
</div>
<button class="submit-btn">Submit</button>
</form>
<∕section>
</body>
</html>
css:
 PACING SYSTEM (px)
 FONT SIZE SYSTEM (px)
 10 / 12 / 14 / 16 / 18 / 20 / 24
MAIN COLOR: #099268
GREY COLOR: #087f5b
 ACCENT: #20c997<mark>,</mark> #e6fcf5
margin: 0;
oadding: 0;
oox-sizing: border-box;
body {
font-family: sans-serif;
width: 850px;
margin: 40px auto;
display: gria;
grid-template-columns: repeat(2, 1fr);
column-gap: 40px;
align-items: center;
.container {
background-color: #e6fcf5;
padding: 40px;
border-radius: 30px;
box-shadow: 0 20px 30px 0 rgb(0, 0, 0, 0.07);
display: gria;
grid-template-columns: 1fr;
justify-items: start;
align-items: center;
row-gap: 30px;
background-color: #099268;
display: inline-block;
padding: 20px;
border-radius: 20px;
color: #e6fcf5;
margin-bottom: 52px;
word-spacing: 2px;
 etter-spacing: 0.5px;
```

```
submit-btn {
font-size: 18px;
text-transform: uppercase;
background-color: #099268;
border: none;
color: #fff;
padding: 10px 20px;
border-radius: 10px;
align-self: end;
letter-spacing: 2px;
.submit-btn:hover {
background-color: #087f5b;
cursor: pointer;
label {
display: inline-block;
margin-bottom: <mark>8</mark>px;
color: #20c997;
letter-spacing: 0.5px;
font-size: 16px;
form input {
padding: 10px;
porder-radius: 10px;
width: 300px;
height: 50px;
border: none;
font-size: 18px;
```

Output:

