

PRACTICALS

INTERNET TECHNOLOGIES

SUBMITTED BY:

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BATCH: SEMESTER V

COURSE: B.SC. (H) COMPUTER SCIENCE

SUBMITTED TO:
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1. 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.

```
C:\Windows\System32>ipconfig

Windows IP Configuration

Wireless LAN adapter Local Area Connection* 3:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 12:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

    Connection-specific DNS Suffix  . : www.tendawifi.com
    Link-local IPv6 Address . . . . . : fe80::127b:db08:124b:3a09%14
    IPv4 Address. . . . . : 192.168.0.109
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.0.1

Ethernet adapter Bluetooth Network Connection:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :
```

This IP belongs to class C

Network Address range of class C- 192-223

Number of hosts= $2^8=256$ (As first three octets are reserved for network addresses in class C)

Range of addresses available = 192.168.0.1-192.168.0.254

2. 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.

ping

```
C:\Windows\System32>ping google.com

Pinging google.com [142.250.194.238] with 32 bytes of data:
Reply from 142.250.194.238: bytes=32 time=4ms TTL=117
Reply from 142.250.194.238: bytes=32 time=5ms TTL=117
Reply from 142.250.194.238: bytes=32 time=6ms TTL=117
Reply from 142.250.194.238: bytes=32 time=26ms TTL=117

Ping statistics for 142.250.194.238:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 26ms, Average = 10ms

C:\Windows\System32>
```

arp -a for finding different systems on my network

```
C:\Windows\System32>arp -a

Interface: 192.168.0.109 --- 0xe
    Internet Address      Physical Address         Type
    192.168.0.1           04-95-e6-bc-d7-c8       dynamic
    192.168.0.255         ff-ff-ff-ff-ff-ff       static
    224.0.0.22            01-00-5e-00-00-16       static
    224.0.0.251           01-00-5e-00-00-fb       static
    224.0.0.252           01-00-5e-00-00-fc       static
    239.255.255.250       01-00-5e-7f-ff-fa       static
    255.255.255.255       ff-ff-ff-ff-ff-ff       static
```

Traceroute

```
C:\Windows\System32>tracert google.com

Tracing route to google.com [142.250.194.46]
over a maximum of 30 hops:

  0  0 ms  0 ms  0 ms  192.168.0.1
  1  9 ms  1 ms  1 ms  192.168.0.1
  2  35 ms  6 ms  3 ms  10.250.112.1
  3  *  *  *  Request timed out.
  4  13 ms  12 ms  34 ms  103.240.232.1
  5  19 ms  7 ms  5 ms  74.125.118.188
  6  10 ms  5 ms  7 ms  142.251.77.23
  7  5 ms  5 ms  6 ms  142.251.52.229
  8  5 ms  3 ms  5 ms  del12s02-in-f14.1e100.net [142.250.194.46]

Trace complete.
```

List of TCP/IP ports

```
C:\Windows\System32>netstat -b -a
```

Active Connections

Proto	Local Address	Foreign Address	State
TCP	0.0.0.0:135	Hardik:0	LISTENING
RpcSs			
[svchost.exe]			
TCP	0.0.0.0:445	Hardik:0	LISTENING
Can not obtain ownership information			
TCP	0.0.0.0:3307	Hardik:0	LISTENING
[mysqld.exe]			
TCP	0.0.0.0:5040	Hardik:0	LISTENING
CDPSvc			
[svchost.exe]			
TCP	0.0.0.0:33060	Hardik:0	LISTENING
[mysqld.exe]			
TCP	0.0.0.0:49664	Hardik:0	LISTENING
[lsass.exe]			
TCP	0.0.0.0:49665	Hardik:0	LISTENING
Can not obtain ownership information			
TCP	0.0.0.0:49666	Hardik:0	LISTENING
Schedule			
[svchost.exe]			
TCP	0.0.0.0:49667	Hardik:0	LISTENING
EventLog			
[svchost.exe]			
TCP	0.0.0.0:49668	Hardik:0	LISTENING
[spoolsv.exe]			
TCP	0.0.0.0:49669	Hardik:0	LISTENING
Can not obtain ownership information			
TCP	0.0.0.0:49670	Hardik:0	LISTENING
[AsusLinkNear.exe]			
TCP	0.0.0.0:49671	Hardik:0	LISTENING
[AsusLinkNear.exe]			
TCP	127.0.0.1:27017	Hardik:0	LISTENING
[mongod.exe]			
TCP	127.0.0.1:49672	Hardik:49673	ESTABLISHED
[mysqld.exe]			
TCP	127.0.0.1:49673	Hardik:49672	ESTABLISHED
[mysqld.exe]			
TCP	127.0.0.1:49674	Hardik:49675	ESTABLISHED
[mysqld.exe]			
TCP	127.0.0.1:49675	Hardik:49674	ESTABLISHED
[mysqld.exe]			
TCP	192.168.0.109:139	Hardik:0	LISTENING
Can not obtain ownership information			
TCP	192.168.0.109:49700	20.198.119.84:https	ESTABLISHED

```

TCP    192.168.0.109:49994    117.18.237.29:http    CLOSE_WAIT
[SearchHost.exe]
TCP    192.168.0.109:50201    104.16.89.5:https     TIME_WAIT
TCP    192.168.0.109:50207    edge:https            ESTABLISHED
[brave.exe]
TCP    192.168.0.109:50209    20.247.216.215:https  TIME_WAIT
TCP    192.168.0.109:50210    13.107.227.48:https   ESTABLISHED
[TextInputHost.exe]
TCP    192.168.0.109:50211    117.18.237.29:http    ESTABLISHED
[TextInputHost.exe]
TCP    192.168.0.109:50216    ec2-18-204-45-124:https ESTABLISHED
[brave.exe]
TCP    192.168.0.109:50217    server-13-227-254-70:https ESTABLISHED
[brave.exe]
TCP    192.168.0.109:50218    ec2-18-204-45-124:https ESTABLISHED
[brave.exe]
TCP    192.168.0.109:50224    del12s07-in-f14:https ESTABLISHED
[brave.exe]
TCP    192.168.0.109:50225    del12s07-in-f14:https TIME_WAIT
TCP    192.168.0.109:50226    del12s07-in-f14:https TIME_WAIT
TCP    192.168.0.109:50227    del12s08-in-f14:https ESTABLISHED
[brave.exe]
TCP    192.168.0.109:50228    del12s04-in-f14:https ESTABLISHED
[brave.exe]
TCP    192.168.0.109:50229    ec2-35-83-30-109:https ESTABLISHED
[brave.exe]
TCP    192.168.0.109:50230    ec2-35-83-30-109:https ESTABLISHED
[brave.exe]
TCP    192.168.0.109:50231    151.101.65.69:https   ESTABLISHED
[brave.exe]
TCP    192.168.0.109:50232    del11s10-in-f10:https ESTABLISHED
[brave.exe]
TCP    192.168.0.109:50233    192.0.73.2:https      ESTABLISHED
[brave.exe]
TCP    192.168.0.109:50235    151.101.24.193:https  ESTABLISHED
[brave.exe]
TCP    192.168.0.109:50236    151.101.24.193:https  ESTABLISHED
[brave.exe]
TCP    192.168.0.109:50238    151.101.24.193:https  ESTABLISHED
[brave.exe]
TCP    192.168.0.109:50239    stackoverflow:https   ESTABLISHED
[brave.exe]
TCP    [::]:135              Hardik:0              LISTENING
RpcSs
[svchost.exe]
TCP    [::]:445              Hardik:0              LISTENING
Can not obtain ownership information
TCP    [::]:3307             Hardik:0              LISTENING

```

3. 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.

WEBPAGE LINK: <https://hardikbhanot.github.io/Portfolio/index.html>

HTML

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <!-- Required meta tags -->
    <meta charset="utf-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1" />
    <!-- https://stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font-awesome.min.css -->
    <!-- Bootstrap CSS -->
    <link
      href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta1/dist/css/bootstrap.min.css"
      rel="stylesheet"
      integrity="sha384-gijF6kkoqNQ00vy+HMDP7azOuL0xtbfIcaT9wjKHr8RbDVddVHyTfAAsrekwKmp1"
      crossorigin="anonymous"
    />
    <link rel="shortcut icon" href="favicon2.ico" type="image/x-icon" />

    <meta name="viewport" content="width=device-width,initial-scale=1" />
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font-
awesome.min.css" integrity="sha384-
wvfxXpqpZZVQGK6TAh5PVlGOfQNHSoD2xbE+QkPxCafineEvoEH3S10sibVcOQVnN" crossorigin="anonymous">
    <title>Hardik Bhanot</title>
    <link rel="shortcut icon" href="favicon2.ico" type="image/x-icon" />
    <link rel="stylesheet" href="style.css" />
    <link rel="preconnect" href="https://fonts.gstatic.com">
    <link href="https://fonts.googleapis.com/css2?family=BioRhyme:wght@700&display=swap" rel="stylesheet">
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.15.2/css/all.min.css"
    integrity="sha512-
HK5fgLBL+Xu6dm/iI3z4xhISUyZgTT9tuc/hSrtw6uzJOvgRr2a9jyxT1ely+B+xFAmJKVSTbpM/CuL7qxO8w=="
    crossorigin="anonymous" />
  </head>
  <body>
    <header>
      <div class="container">
        <nav class="navbar">

          <a class="navbar-brand logo" href="index.html">Portfolio.</a>

          <div class="burger">

            <div class="line"></div>
            <div class="line"></div>
            <div class="line"></div>
          </div>
          <ul class="nav-links navbar-nav">
            <li class="nav-link nav-item"><a href="index.html">Home</a></li>
            <li class="nav-link nav-item"><a href="#About">About</a></li>
            <li class="nav-link nav-item"><a href="#Contact">Contact</a></li>
          </ul>
        </nav>
      </div>
    </header>
```

```

<section class="home">
  <h1>
    <em class="hello">Hey There,<br></em>I'm <em class="name">Hardik</em>.<br> A Web Developer.
  </h1>
  <a href="#About">
    <div class="scrolldown"></div>
  </a>
</section>

<section class="about" id="About">

  <h2>About Me</h2>

  <div class="row-2">
    <div class="col">
      <p>
        Hi,I am Hardik.<br>A Web Developer and a student of Computer science from<br> P.G.D.A.V. College,Delhi
        University.<br>
        I like to take on challenges and try out different things.<br>
        I like to watch tv series and cricket in my freetime.
      </p>
      <a href="#Contact"><button class="btn" style="margin-bottom: 20px;">Contact </button></a>
    </div>
    <div class="col">

    </div>
  </div>
</div>

</section>
<section class="skills" id="Skill">

  <h2 class="my-skills text-center">
    My Skills
  </h2>
  <div class="wrap">
    <div class="bar">
      <h3>HTML</h3>
      <span></span>
    </div>
    <div class="bar">
      <h3>CSS</h3>
      <span></span>
    </div>
    <div class="bar">
      <h3>JavaScript</h3>
      <span></span>
    </div>
    <div class="bar">
      <h3>C++</h3>
      <span></span>
    </div>
  </div>

```

```

    </div>
  </div>

</section>

```

```

<section class="contact" id="Contact">
<div class="svg">
  <svg xmlns="http://www.w3.org/2000/svg" viewBox="0 0 1440 320"><path fill="#fff" fill-opacity="1"
d="M0,224L30,202.7C60,181,120,139,180,149.3C240,160,300,224,360,256C420,288,480,288,540,250.7C600,21
3,660,139,720,122.7C780,107,840,149,900,176C960,203,1020,213,1080,197.3C1140,181,1200,139,1260,138.7C
1320,139,1380,181,1410,202.7L1440,224L1440,0L1410,0C1380,0,1320,0,1260,0C1200,0,1140,0,1080,0C1020,0,
960,0,900,0C840,0,780,0,720,0C660,0,600,0,540,0C480,0,420,0,360,0C300,0,240,0,180,0C120,0,60,0,30,0L0,0Z"
></path></svg>
</div>
<div class="contact-me text-center">
<span class="contact-text">Contact Me</span>
</div>
<div class="social">
  <ul>
    <li>
      <a href="mailto:hardik.bhanot1@gmail.com" target="_blank"><i class="fas fab fa-envelope fa-2x"></i></a>
    </li>
    <li>
      <a href="https://www.linkedin.com/in/hardik-bhanot/" target="_blank"><i class="fab fa-linkedin fa-
6x"></i></a>
    </li>
    <li>
      <a href="https://www.instagram.com/_h.a.r.d.i.k._/" target="_blank"><i class="fab fa-
instagram"></i></a>
    </li>
    <li>
      <a href="https://github.com/Hardikbhanot" target="_blank"><i class="fab fa-github"></i></a>
    </li>
  </ul>
</div>
</section>
<!--Start of Tawk.to Script-->
<script type="text/javascript">
var Tawk_API=Tawk_API|| {}, Tawk_LoadStart=new Date();
(function(){
var s1=document.createElement("script"),s0=document.getElementsByTagName("script")[0];
s1.async=true;
s1.src='https://embed.tawk.to/6192210f6885f60a50bbd259/1fkhd29fr';
s1.charset='UTF-8';
s1.setAttribute('crossorigin','*');
s0.parentNode.insertBefore(s1,s0);
})();
</script>
<!--End of Tawk.to Script-->
<script src="index.js"></script>
</body>
</html>

```

CSS-

```

*,
*::before,

```



```

*::after {
  margin: 0;
  padding: 0;
  box-sizing: border-box;
}

body {
  width: 100%;
  overflow-x: hidden;
}

html {
  font-family: "Roboto", sans-serif;
  font-size: 10px;
  scroll-behavior: smooth;
}

header {
  width: 100%;
  position: fixed;
  top: 0;
  left: 0;
  transition: background-color 0.5s ease;
  z-index: 1000;
}

nav {
  width: 100%;
  height: 10rem;
  display: flex;
  align-items: center;
  /* float: right;
  text-align: right; */

  justify-content: space-between;
  border-bottom: 2px solid rgba(255, 255, 255, 0.05);
  transition: height 0.5s ease;
}

.nav-links{
  display: flex;
  list-style: none;
  width: 50%;
  height: 100%;
  justify-content: space-around;
  align-items: center;
  margin-left: auto;
  flex-direction: row;
}

.nav-links li a{
  text-decoration: none;
  color: aliceblue;
  font-size: 1.8rem;
  list-style: none;
}

```

```

.nav-link{
  position: relative;
}
.nav-link::after {
  content: " ";
  width: 80%;
  height: 2px;
  background-color: #fff;
  position: absolute;
  left: 6.5px;
  bottom: 4px;
  transform: scaleX(0);
  transform-origin: left;
  transition: transform 0.5s ease;
}

```

```

.nav-link:hover::after {
  transform: scaleX(1);
}

```

```

.logo{
  margin-left: 10%;
  margin-top: 1%;
}
nav .logo {
  font-size: 3rem;
  font-family: 'BioRhyme', serif;

```

```

  align-items: center;
  color: #fff;
  text-decoration: none;
}

```

```

.scrolling-active {
  background-color: #fff;
  box-shadow: 0 3px 1rem rgba(0, 0, 0, 0.1);
}

```

```

.scrolling-active nav {
  height: 6.6rem;
}
.scrolling-active .burger .line{
  background-color: #000;
}
.scrolling-active nav a {
  color: #313131;
  padding-bottom: 4%;
}

```

```

.scrolling-active nav .logo{
  margin-bottom: 3px;
  padding: 0;
}

```

```

.scrolling-active .nav-link::after {

```

```
background-color: #313131;
}
```

```
.home {
width: 100%;
height: 100vh;
background: linear-gradient(rgba(0, 0, 0, 0.7), rgba(0, 0, 0, 0.5)),
url("img2.jpg") center no-repeat;
background-size: cover;
position: relative;
}
```

```
.home::after {
content: "";
width: inherit;
height: inherit;
position: absolute;
top: 0;
left: 0;
background-color: rgba(0, 0, 0, 0.5);
}
```

```
h1 {
position: absolute;
top: 50%;
left: 50%;
transform: translate(-50%, -50%);
font-size: 6rem;
font-family: "Playfair Display", serif;
letter-spacing: 0.3rem;
line-height: 10rem;
color: #fff;
z-index: 1;
}
```

```
.hello {
font-size: 5rem;
color: blanchedalmond;
font-style: normal;
}
```

```
.name {
font-style: normal;
font-weight: 800;
color: floralwhite;
}
```

```
.scroll down {
height: 45px;
border: 2px;
width: 30px;
background-color: white;
position: absolute;
left: 50%;
bottom: 5px;
```

```

z-index: 1;
border-radius: 50px;
cursor: pointer;
}

.scrolldown::before,
.scrolldown::after {
  content: "";
  position: absolute;
  top: 20%;
  left: 50%;
  border: 2px solid black;
  height: 10px;
  width: 10px;
  transform: translate(-50%, -100%) rotate(45deg);
  border-top: transparent;
  border-left: transparent;
  animation: scrolldown 1s ease-in-out infinite;
}

.scrolldown::after {
  top: 30%;
  animation-delay: 0.5s;
}

@keyframes scrolldown {
  0% {
    opacity: 0;
  }
  30% {
    opacity: 1;
  }
  60% {
    opacity: 1;
  }
  100% {
    opacity: 0;
    top: 90%;
  }
}

```

```

.about{
width: 100%;
height:100vh ;
box-sizing: border-box;
/* display: flex; */
align-items: center;
justify-content: space-between;
padding: 50px 3% 50px 3%;
/* margin-bottom: 30px; */
/* position: relative; */
background-color: #e5e5e5;
/* box-shadow: 5px 10px 8px 10px #888888; */
}

```

```

.about-text{

```

```

font-family:Calibri;
width: 50%;
background-color: #fff;
}

.about-sec{
  background-color: #fff;
}
.about-text .btn{
  /* top: 69%; */
  /* position:absolute; */
}
.about h2{
  font-size:5rem;
  color: #2e302f;
  /* position: static; */
  padding-top: 20px;
  margin-left: 50%;
  transform: translateX(-50%);
  display: inline-block;
}

.row-2{
  display: flex;
  flex-direction: row;
}
.about .col img{
  float: right;
}

.about h2:after{
  content: "";
  background:linear-gradient(#36096d 0%, #009FFD 74%);
  position: absolute;
  height: 3%;
  width: 60%;
  align-self: center;
  /* top: 85%;
  */
  bottom: -5%;
  left: 25%;
  transform: scaleX(0.3);
  transition: transform 0.5s ease ;
}
.about h2:hover::after{
  transform: scaleX(1);
}
.about p{
  font-size: 3rem;
  color: #0c0c17;
  padding-bottom: 4rem;
  top: 30%;
  /* position: absolute; */
}

.about img{

```

```
height: 439px;
/* position: absolute;
top: 23%;
left: 65%; */
}
```

```
.btn {
font-size: 16px;
font-family: 'Rubik', sans-serif;
font-weight: 600;
padding: 12px 35px;
color: #fff;
border-radius: 43px;
transition: nowrap;
border: none;
cursor: pointer;
}
```

```
.btn:hover{
-webkit-transform: scale(1.1);
transform: scale(1.1);
}
```

```
.btn{
background: linear-gradient(to left, #36096d 0%, #009FFD 74%);
}
```

```
.skills{
width: 100%;
height: 70vh;
}
```

```
.skills{
list-style: none;
font-family: sans-serif;
/* width: 500px; */
margin: 0px auto;
top: 50%;
position: block;
background: #333;
}
```

```
/* ----- */
```

```
.my-skills{
font-size: 5rem;
color: aliceblue;
width: 100%;
position: relative;
/* left: 37%;
top: 5%; */
letter-spacing: 4px;
font-weight: 600;
}
```

```
/* .my-skills::after{
content: '';
}
```

```
height: 3px;
bottom: -10%;
left: 43%;
background: linear-gradient(to left,#a8d8c0 10%,#64a19e 60%,#254f83 10% );
position: absolute;
width: 10%;
animation: line 5s ease-in;
} */
```

```
/* @keyframes line{
  from{
    width:10%;
  }
  to{
    width:50%;
  }
}
*/
/* .skill{
  background-color: rgb(182, 147, 147);
  font-family: Open sans,sans-serif;
} */
.wrap{
  max-width:60%;
  margin:115px auto 35px;

}
```

```
.bar{
  color: #fff;
  font-weight: 500;
  font-size: 16px;
  width: 100%;
  font-size: 16px;
  position:relative;
  margin-bottom: 15px;
  display: inline-block;
```

```
}
.bar span{
  position: relative;
  display: inline-block;
  width: 100%;
  height: 25px;
  background: #000;
  border-radius: 50px;
```

```
}
.bar span::before{
  position: absolute;
  content:"";
  top: 6px;
  left: 5px;
  width: 80%;
  height: 50%;
  background: linear-gradient(to left ,#36096d 0%, #37d5d6 74%);
  border-radius: 50px;
```

```

    animation: bar 6s ease;
  }
  @keyframes bar{
    0%{
      width:0%;
    }
  }
  .bar:nth-child(1) span::before{
    width: 80%;
  }
  .bar:nth-child(2) span::before{
    width: 70%;
  }
  .bar:nth-child(3) span::before{
    width: 55%;
  }
  .bar:nth-child(4) span::before{
    width: 60%;
  }
}

/* ----- */

```

```

.contact{
  height: 110vh;
  width: 100%;
  background:linear-gradient(45deg,#36096d 7%, #009FFD 74%);
}
.contact h2{
  width: 40%;
}
.contact-text{
  font-size: 6rem;
  color: white;
  width: 25%;
  left: 40%;
}

}
.social{
  /* height: 30vh; */
  align-items: center;
}
body section.contact div.social {
  display: relative !important;
  z-index: 1;
}
.social ul{
  /* position: relative !important; */
  /* transform: translate(-50%,-50%); */
  display: flex;
  padding: 0;
  margin-top: 10%;
  width: fit-content;
  margin-left: 50%;
  transform: translateX(-50%);
}

```



```

.social ul li{
  /* flex-direction: column; */
  list-style: none;
  margin: 0 40px;
  /* position: relative !important; */

}
.social ul li .fab{
font-size: 30px;
line-height: 60px;
transition: 0.5s;
color: #000;
/* z-index: 1; */
}
.social ul li a{
  position: relative;
  display: block;
  width: 60px;
  height: 60px;
  border-radius: 50%;
  background-color: #fff;
  text-align: center;
  transition: 0.5s;
  box-shadow: 0 5px 4px ,rgba (0,0,0,1);
}
.social ul li .fab:hover{
  color: #fff;
  transform: translate(0,-10px);

}
.social ul li a:hover{
  width: 64px;
  height: 64px;
}
.social ul li:nth-child(1) a:hover{
background-color:#c71610
}
.social ul li:nth-child(2) a:hover{
  background-color: #0077B5;
}
.social ul li:nth-child(3) a:hover{
  background-color: #e4405f;
}
.social ul li:nth-child(4) a:hover{
background-color: #171515;
}

```

```

@media screen and (max-width:768px){

```

```

body{
  overflow-x: hidden;
}

.nav-links {
position: absolute;
right: 0px;
height: 100vh;
top: 0rem;
display: flex;
flex-direction: column;
align-items: center;
width: 100%;
transform: translateX(100%);
transition: transformX 0.5s ease;
background-color: linear-gradient(rgb(17, 17, 17), rgb(7, 6, 6));
color: #fff;
transition: all 0.6s ease-out;
pointer-events: none;
}

.scrolling-active .nav-links{
  height:91.2vh;
}

.logo.open{
  display: none;
  pointer-events: none;
}

.nav-links.open{
  transform: translateX(0%);
  pointer-events: all;
}

.nav-link.open{
  color: #fff;
}
.scrolling-active .nav-link.open{
  color: #fff;
}
.line{

  height: 3px;
  background: white;
  margin: 5px;
  width: 30px;
}

.contact{
  height: 70vh;
}

.contact-text{
  font-size: 4.5rem;
}
nav{

```

```

    position: relative;
}

nav.open{
    background: none;
    display: none;
}
.burger{
    position: absolute;
    cursor: pointer;
    right: 5%;
    top: 50%;
    transform: translate(-5%,-50%);
    z-index: 2;
}

.row-2{
    flex-direction: column;
    padding: 0;
}
.row-2 .col:nth-child(2){
    margin-bottom: 20px;
}

.row-2 img{
    height: 300px;
}
.about .row:nth-child(2) .col:nth-child(1) {
    margin-top: 30%;
}

.about .col img{
    float: none;
    margin-left: 50%;
    transform: translateX(-50%);
}

.social ul{
    flex-direction: column;
}

.social ul li{
    margin: 10px;
    /* width: 100%; */
}

.about p{
    font-size: 2.5rem;
}
}
@media screen and (max-width:550px){
    .about h2{
        font-size: 3rem;
        padding-top: 0;
        padding-bottom: 10px;
    }
}

```

```

.about .row:nth-child(2) .col:nth-child(1) {
  margin-top: 40%;
}
.social ul{
  margin-left: 40%;
}
.about{
  height: 130vh;
}
}
@media screen and (max-width:360px){
  .about h2{
    font-size: 2.5rem;
  }
}
}

```

JAVASCRIPT-

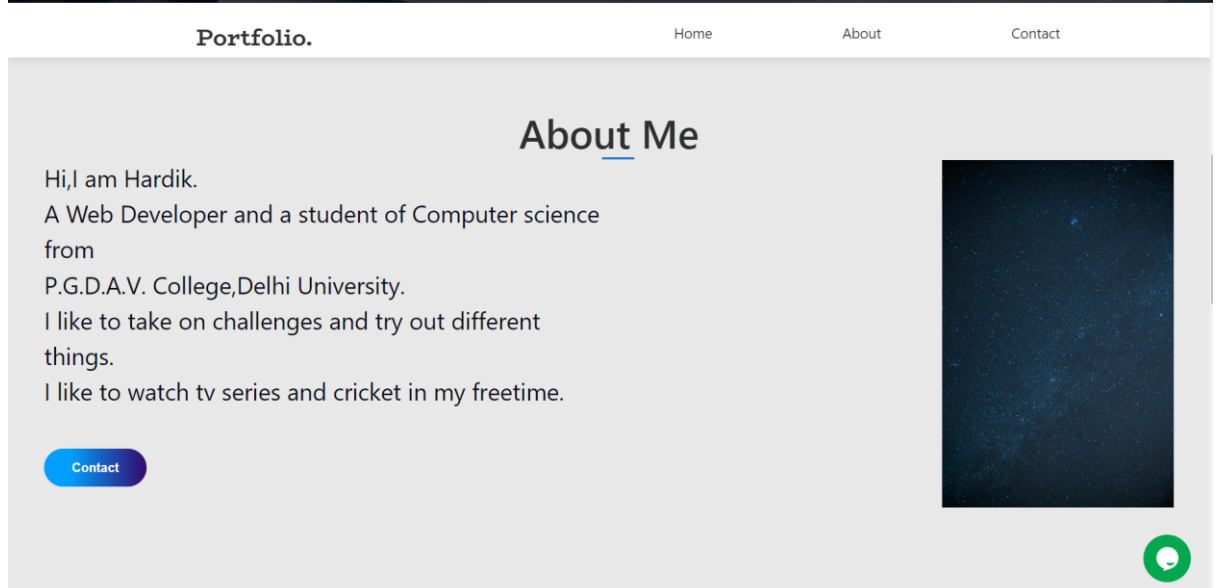
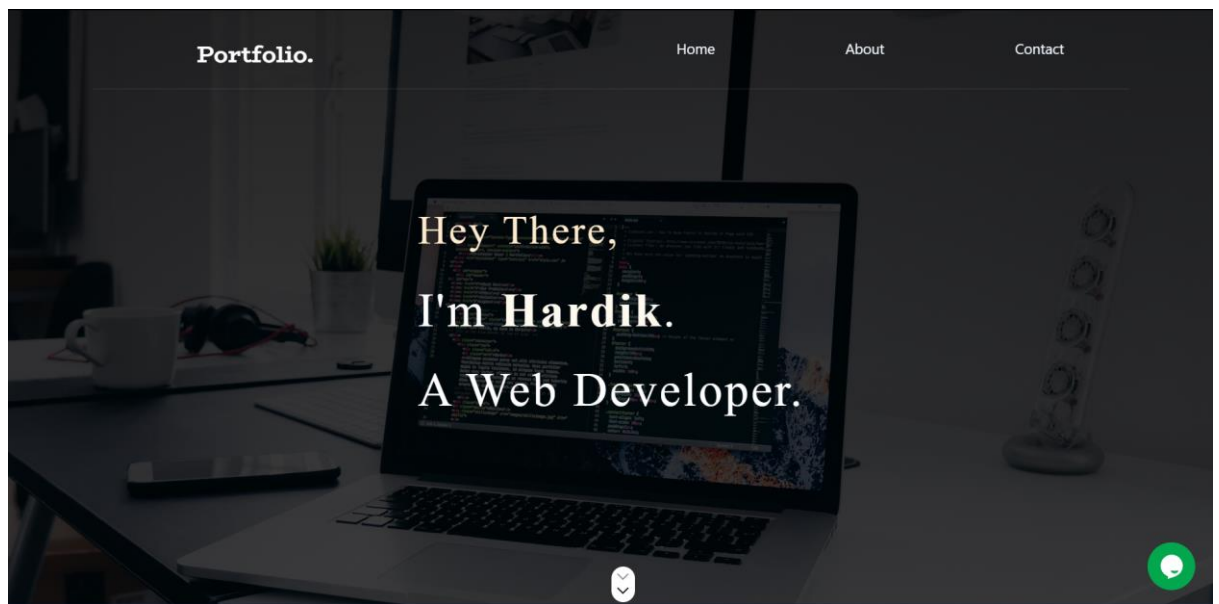
```

const svg= document.querySelector(".svg")
const width= window.innerWidth
console.log(width)
if(width<=768){
  svg.innerHTML=""
}
const burger = document.querySelector(".burger")
const links =document.querySelector(".nav-links")
const link =document.querySelectorAll(".nav-link")
const logo=document.querySelector(".logo")
const nav= document.querySelector("nav")
burger.addEventListener('click',()=>{
  links.classList.toggle("open")
  link.classList.toggle("fade")
  link.classList.toggle("open")
  logo.classList.toggle("open")
  nav.classList.toggle("open")
})

window.addEventListener('scroll', function () {
  let header = document.querySelector('header');
  let windowPosition = window.scrolly > 0;
  header.classList.toggle('scrolling-active', windowPosition);
})

```

OUTPUTS-



My Skills

HTML



CSS



JavaScript



C++



Contact Me



4. 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.

CODE:-

LINK:- <https://github.com/Hardikbhanot/IT-PRACTICAL/blob/main/4th.html>

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=, initial-scale=1.0" />
    <title>Table</title>
  </head>
  <body>
    <div class="container"></div>
  </body>
  <script>
    const container = document.getElementsByClassName("container")[0];
    let i = 2;
    let j = 1;
    let multiply_array = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];
    let size = 15;
    const timer = setInterval(() => {
      let color = Math.floor(Math.random() * 1000) + 90;
      container.innerHTML += `<p
style="font-size:${size}px;color:#{color}">${multiply_array
      .map((item) => item * i)
      .join(" ")</p> <br>`;
      size+=10;
      i++;
      if (i > 10) {
        clearInterval(timer);
      }
    }, 5000);
  </script>
</html>
```

OUTPUT:

LINK: <https://github.com/Hardikbhanot/IT-PRACTICAL/blob/main/5th.html>

2 4 6 8 10 12 14 16 18 20

3 6 9 12 15 18 21 24 27 30

4 8 12 16 20 24 28 32 36 40

5 10 15 20 25 30 35 40 45 50

6 12 18 24 30 36 42 48 54 60

7 14 21 28 35 42 49 56 63 70

8 16 24 32 40 48 56 64 72 80

9 18 27 36 45 54 63 72 81 90

10 20 30 40 50 60 70 80 90 100

5. 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.

Code:-

LINK: <https://github.com/Hardikbhanot/IT-PRACTICAL/blob/main/5th.html>

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>5th Practical</title>
    <style>

.grid-container {
  display: grid;
  justify-content: center;
  grid-template-columns: auto auto auto;
  background-color: #2196F3;
  padding: 10px;
}

.grid-button {
  background-color: rgba(255, 255, 255, 0.8);
  border: 1px solid rgba(0, 0, 0, 0.8);
  padding: 20px;
  font-size: 30px;
  text-align: center;
  font-family: 'Gill Sans', 'Gill Sans MT', Calibri, 'Trebuchet MS', sans-serif;
}

    </style>
  </head>
  <body>
    <p class="para">
      Lorem ipsum dolor sit amet, consectetur adipisicing elit. Inventore
      maiores natus amet molestiae aliquid libero vero perspiciatis corrupti
      magni sapiente sunt nobis beatae, voluptatibus ratione. Blanditiis
```

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dignissimos

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quod

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minima

fuga quaerat totam fugit labore, sunt dolorum itaque amet? Recusandae

quia

impedit repellat voluptas sequi modi dolores voluptatem autem nam voluptate! Repudiandae cupiditate officiis, facere eius magnam veniam, tempore ipsam, similique nulla atque molestiae saepe illo suscipit reprehenderit! Laboriosam dicta nam provident. Laudantium, corporis dolorem quisquam pariatur eos repellendus ex rem provident tempora distinctio, nesciunt sapiente recusandae quaerat nisi impedit blanditiis architecto deserunt? Blanditiis non laboriosam qui sed perspiciatis, dolorum quo repellat obcaecati amet! Obcaecati, quibusdam, nisi amet

quas

atque voluptate nesciunt deleniti voluptatem laudantium pariatur aperiam,

distinctio veniam magni optio at saepe tempora. Minima totam obcaecati neque maxime reprehenderit atque numquam omnis.

</p>

<div class="grid-container">

<button class="grid-button grid-button1">RED</button>

<button class="grid-button2 grid-button">Green</button>

<button class="grid-button grid-button3">Blue</button>

<button class="grid-button grid-button4">10</button>

<button class="grid-button grid-button5">20</button>

<button class="grid-button grid-button6">30</button>

<button class="grid-button grid-button7">sans-serif</button>

<button class="grid-button grid-button8">serif</button>

<button class="grid-button grid-button9">monospace</button>

</div>

<script>

document.querySelector(".grid-button1").addEventListener('click', function(){

document.querySelector(".para").style.color = "red";

});

document.querySelector(".grid-button2").addEventListener('click', function(){

document.querySelector(".para").style.color = "green";

});

document.querySelector(".grid-button3").addEventListener('click', function(){

document.querySelector(".para").style.color = "blue";

});

document.querySelector(".grid-button4").addEventListener('click', function(){

document.querySelector(".para").style.fontSize = "10px";

});

```

        document.querySelector(".grid-button5").addEventListener('click',
function(){
    document.querySelector(".para").style.fontSize = "20px";
});
        document.querySelector(".grid-button6").addEventListener('click',
function(){
    document.querySelector(".para").style.fontSize = "30px";
});
        document.querySelector(".grid-button7").addEventListener('click',
function(){
    document.querySelector(".para").style.fontFamily = "sans-serif";
});
        document.querySelector(".grid-button8").addEventListener('click',
function(){
    document.querySelector(".para").style.fontFamily = "serif";
});
        document.querySelector(".grid-button9").addEventListener('click',
function(){
    document.querySelector(".para").style.fontFamily = "monospace";
});

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

```

OUTPUT:-

LINK: <https://hardikbhanot.github.io/IT-PRACTICAL/5th>

consequuntur ducimus similique possimus expedita labore est, voluptates reprehenderit neque quidem deserunt eos distinctio? Pariatur aliquid repellat ex laudantium, quia expedita reprehenderit doloribus excepturi, sint voluptas voluptatum? Exercitationem a illo, ullam quasi id autem ipsam vero, placeat sequi perferendis deleniti, reprehenderit nemo. Deserunt incidunt error eius ad ipsum natus officia quidem dolores numquam nam nemo, voluptates voluptatum quod ullam harum, accusamus ut? Hic qui natus labore, quisquam dolores quibusdam sit unde omnis! Fuga consequuntur commodi quos? Necessitatibus repudiandae mollitia, eligendi illum quos nam sint voluptatibus numquam est magni incidunt accusantium. Laboriosam ullam recusandae nulla blanditiis debitis assumenda quaerat. Vel ipsum voluptatum commodi non. Voluptate, quos nemo. Nemo impedit libero assumenda quae. Culpa aut molestias modi id maxime repudiandae sit quibusdam atque veritatis expedita odit corrupti omnis nostrum ipsum voluptatem, illum maiores dolorum in molestiae fugiat saepe facilis laborum doloremque? Sed nobis, odio deserunt itaque nostrum architecto consequatur cupiditate quos ducimus ratione reiciendis voluptates odit repellat hic perferendis nihil aliquid consectetur quae culpa mollitia ipsam beatae, rem, at adipisci. Culpa sed quas nihil et quod perspiciatis soluta voluptatibus qui vero veritatis dignissimos doloribus ducimus, consequuntur dolores sit pariatur consequatur eos nam sunt. Praesentium, repellendus reprehenderit quo, ut illo eaque vero esse doloribus aspernatur porro qui nemo at in quisquam nesciunt sunt architecto facilis debitis libero aliquam consequatur doloremque numquam. Ab, doloremque eius. Ipsa cumque consequatur quod accusamus aspernatur aperiam voluptatum aut sunt omnis? Animi illum saepe modi incidunt debitis, dolorum enim dicta excepturi dolore, hic dolorem consequatur cum tempore sit aperiam eligendi sunt quidem officis quo laudantium nisi rerum perferendis ducimus? Totam similique illum ipsa pariatur tempora quisquam sint sequi consequatur, minima deserunt, doloremque mollitia sunt molestias? Nesciunt aspernatur error nostrum dolorum eaque eveniet natus inventore dignissimos officia ipsam quia quos suscipit, minima molestiae vitae, labore aut quod praesentium cum magnam, accusamus delectus. Magni laborum molestiae minima fuga quaerat totam fugit labore, sunt dolorum itaque amet? Recusandae quia impedit repellat voluptas sequi modi dolores voluptatem autem nam voluptate! Repudiandae cupiditate officis, facere eius magnam veniam, tempore ipsam, similique nulla atque molestiae saepe illo suscipit reprehenderit! Laboriosam dicta nam provident. Laudantium, corporis dolorem quisquam pariatur eos repellendus ex rem provident tempora distinctio, nesciunt sapiente recusandae quaerat nisi impedit blanditiis architecto deserunt? Blanditiis non laboriosam qui sed perspiciatis, dolorum quo repellat obcaecati amet! Obcaecati, quibusdam, nisi amet quas atque voluptate nesciunt deleniti voluptatem laudantium pariatur aperiam, distinctio veniam magni optio at saepe tempora. Minima totam obcaecati neque maxime reprehenderit atque numquam omnis.

| RED | Green | Blue |
|------------|-------|-----------|
| 10 | 20 | 30 |
| sans-serif | serif | monospace |

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.

CODE:

LINK: <https://hardikbhanot.github.io/IT-PRACTICAL/4th>

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Pets</title>

  <style>
    body {
      align-items: center;
      background-color: #000;
      display: flex;
      justify-content: center;
      height: 100vh;
    }

    .form {
      background-color: #15172b;
      border-radius: 20px;
      box-sizing: border-box;
      height: 500px;
      padding: 20px;
      width: 320px;
    }

    .title {
      color: #eee;
      font-family: sans-serif;
      font-size: 36px;
    }
  </style>
</head>
<body>
  <div>
    <h1>Pets</h1>
    <div>
      <div>
        <input type="text" value="Name" />
        <input type="text" value="Age" />
        <input type="text" value="Weight" />
        <input type="text" value="Type" />
        <input type="text" value="Likes" />
      </div>
      <div>
        <input type="button" value="Submit" />
      </div>
    </div>
  </div>
</body>
</html>
```

```
    font-weight: 600;
    margin-top: 30px;
}

.subtitle {
    color: #eee;
    font-family: sans-serif;
    font-size: 16px;
    font-weight: 600;
    margin-top: 10px;
}

.input-container {
    height: 50px;
    position: relative;
    width: 100%;
}

.ic1 {
    margin-top: 40px;
}

.ic2 {
    margin-top: 30px;
}

.input {
    background-color: #303245;
    border-radius: 12px;
    border: 0;
    box-sizing: border-box;
    color: #eee;
    font-size: 18px;
    height: 100%;
    outline: 0;
    padding: 4px 20px 0;
    width: 100%;
}

.cut {
    background-color: #15172b;
    border-radius: 10px;
    height: 20px;
    left: 20px;
    position: absolute;
    top: -20px;
    transform: translateY(0);
    transition: transform 200ms;
```

```
width: 76px;
}

.cut-short {
width: 50px;
}

.input:focus ~ .cut,
.input:not(:placeholder-shown) ~ .cut {
transform: translateY(8px);
}

.placeholder {
color: #65657b;
font-family: sans-serif;
left: 20px;
line-height: 14px;
pointer-events: none;
position: absolute;
transform-origin: 0 50%;
transition: transform 200ms, color 200ms;
top: 20px;
}

.input:focus ~ .placeholder,
.input:not(:placeholder-shown) ~ .placeholder {
transform: translateY(-30px) translateX(10px) scale(0.75);
}

.input:not(:placeholder-shown) ~ .placeholder {
color: #808097;
}

.input:focus ~ .placeholder {
color: #dc2f55;
}

.submit {
background-color: #08d;
border-radius: 12px;
border: 0;
box-sizing: border-box;
color: #eee;
cursor: pointer;
font-size: 18px;
height: 50px;
margin-top: 38px;
text-align: center;
```



```

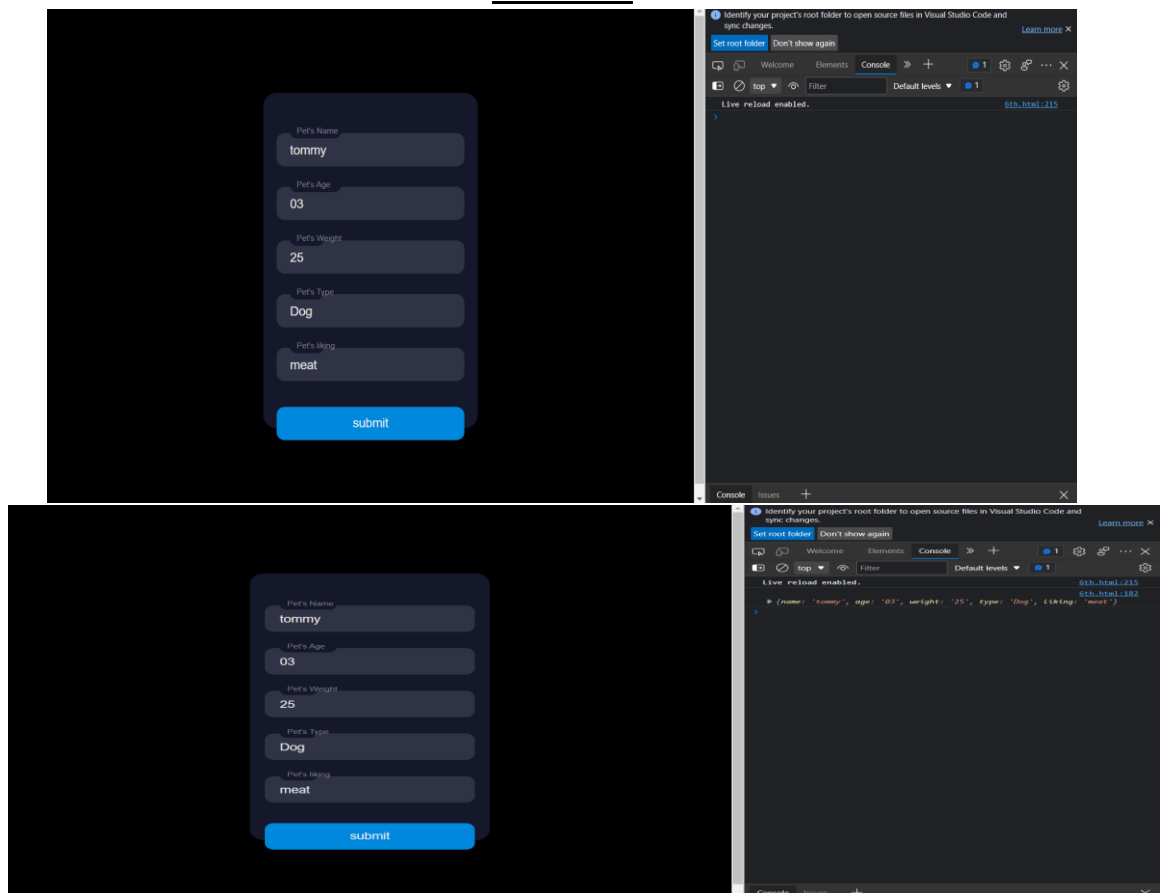
    let name = document.getElementById("name").value;
    let age = document.getElementById("age").value;
    let weight = document.getElementById("weight").value;
    let type = document.getElementById("Type").value;
    let liking = document.getElementById("Liking").value;
    Pet={
        'name':name,
        'age':age,
        'weight':weight,
        'type':type,
        'liking':liking
    }
    console.log(Pet);

})

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

```

OUTPUT:



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.

CODE:

LINK: <https://github.com/Hardikbhanot/IT-PRACTICAL/blob/main/7th.html>

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Pets</title>

  <style>
    body {
      align-items: center;
      background-color: #000;
      /* height: 100vh; */
    }
    .form-container{
      justify-content: center;

      display: flex;
    }
    .table-container{
      margin: 5%;
      height: 30vh;
      display: flex;
      justify-content: center;
    }
    .form {
      background-color: #15172b;
      border-radius: 20px;
      box-sizing: border-box;
      height: 500px;
      padding: 20px;
      width: 320px;
    }

    .title {
      color: #eee;
      font-family: sans-serif;
      font-size: 36px;
      font-weight: 600;
    }
  </style>
</head>
<body>
  <div class="form-container">
    <div class="form">
      <div class="title">
        <h1>Pets</h1>
      </div>
    </div>
  </div>
</body>
</html>
```

```
    margin-top: 30px;
}

.subtitle {
    color: #eee;
    font-family: sans-serif;
    font-size: 16px;
    font-weight: 600;
    margin-top: 10px;
}

.input-container {
    height: 50px;
    position: relative;
    width: 100%;
}

.ic1 {
    margin-top: 40px;
}

.ic2 {
    margin-top: 30px;
}

.input {
    background-color: #303245;
    border-radius: 12px;
    border: 0;
    box-sizing: border-box;
    color: #eee;
    font-size: 18px;
    height: 100%;
    outline: 0;
    padding: 4px 20px 0;
    width: 100%;
}

.cut {
    background-color: #15172b;
    border-radius: 10px;
    height: 20px;
    left: 20px;
    position: absolute;
    top: -20px;
    transform: translateY(0);
    transition: transform 200ms;
    width: 76px;
}
```

```
}

.cut-short {
  width: 50px;
}

.input:focus ~ .cut,
.input:not(:placeholder-shown) ~ .cut {
  transform: translateY(8px);
}

.placeholder {
  color: #65657b;
  font-family: sans-serif;
  left: 20px;
  line-height: 14px;
  pointer-events: none;
  position: absolute;
  transform-origin: 0 50%;
  transition: transform 200ms, color 200ms;
  top: 20px;
}

.input:focus ~ .placeholder,
.input:not(:placeholder-shown) ~ .placeholder {
  transform: translateY(-30px) translateX(10px) scale(0.75);
}

.input:not(:placeholder-shown) ~ .placeholder {
  color: rgb(76, 76, 241);
}

.input:focus ~ .placeholder {
  color: #dc2f55;
}

.submit {
  background-color: #08d;
  border-radius: 12px;
  border: 0;
  box-sizing: border-box;
  color: #eee;
  cursor: pointer;
  font-size: 18px;
  height: 50px;
  margin-top: 38px;
  text-align: center;
  width: 100%;
}
```



```

        <div class="input-container ic2">
            <input id="Liking" name="Liking" class="input" type="text"
placeholder="Pet's liking " />
            <div class="cut cut-short"></div>
            <label for="Liking" class="placeholder">Pet's liking </label>
        </div>
        <button type="submit" class="submit">submit</button>
    </form>
</div>
<div class="table-container">

    <table>
        <tr>
            <th>Name</th>
            <th>Age</th>
            <th>Weight</th>
            <th>Type</th>
            <th>Liking</th>

        </tr>
    </table>
</div>
<script>
    document.querySelector('.form').addEventListener("submit",()=>{
        event.preventDefault();
        let name = document.getElementById("name").value;
        let age = document.getElementById("age").value;
        let weight = document.getElementById("weight").value;
        let type = document.getElementById("Type").value;
        let liking = document.getElementById("Liking").value;
        Pet={
            'name':name,
            'age':age,
            'weight':weight,
            'type':type,
            'liking':liking
        }
        console.log(Pet);
    })
</script>
    <script type="module">

let request = new XMLHttpRequest();
request.open("GET", "7th.json", true);

document.querySelector("body").onload=()=>{
    request.send();

```

```

request.onload = function() {
  if (request.status == 200) {
    let data = JSON.parse(request.responseText);
    console.log(data);
    let table = document.querySelector("table");
    let str = "";
    data.forEach(function(element) {
      console.log(element);
      str += `
        <tr>
          <td>${element.name}</td>
          <td>${element.age}</td>
          <td>${element.weight}</td>
          <td>${element.type}</td>
          <td>${element.liking}</td>
        </tr>
      `;
    });
    table.innerHTML += str;
  } else {
    console.log("some error occurred");
  }
};
</script>
</body>
</html>

```

JSON FILE

```

[
  {
    "name": "doggo",
    "age": "04",
    "weight": "30",
    "type": "dog",
    "liking": "foooodd"
  },
  {
    "name": "catto",
    "age": "02",
    "weight": "10",
    "type": "cat",
    "liking": "mice"
  },
  {
    "name": "birdo",
    "age": "01",

```

```

    "weight": "05",
    "type": "bird",
    "liking": "worms"
  }
]

```

OUTPUT:

LINK: <https://hardikbhanot.github.io/IT-PRACTICAL/7th>

The screenshot shows a web application with a dark background. At the top, there is a form with four input fields labeled 'Pet's Age', 'Pet's Weight', 'Pet's Type', and 'Pet's Liking'. Below these fields is a blue 'submit' button. Below the form, there is a table with the following data:

Name	Age	Weight	Type	Liking
doggo	04	30	dog	foooodd
catto	02	10	cat	mice
birdo	01	05	bird	worms

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.

CODE:

LINK: <https://github.com/Hardikbhanot/IT-PRACTICAL/blob/main/8th.html>

```

<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />

```



```

<title>B.Sc (Hons) Computer Science by Delhi University(created by hardik
bhanot)</title>
<script src="https://code.jquery.com/jquery-3.6.1.min.js"
integrity="sha256-o88AwQnZB+VDvE9tvIXrMQaPlFFSUTR+nldQm1LuPXQ="
crossorigin="anonymous"></script>
<style>
  *{
    margin: 0;
    padding: 0;
    box-sizing: border-box;
  }
</style>
</head>
<body>
  <section class="header">
    <h1>BSc (Hons) Computer Science</h1>
  </section>
  <div class="container">
    <section class="fee">
      <h2>Fee</h2>
      <p>
        The professional course of BSc. (Hons) Computer Science has a fee
        ranging between 45,000-50,000 INR varrying college-wise at The
        University of Delhi.
      </p>
    </section>

    <section class="eligibility">
      <h2>Eligibility</h2>
      <p>
        DU B.Sc (Hons) Computer Science Eligibility Criteria 2022, basic
        Requirements:
      </p>
      <ul>
        <li>
          Candidates who have secured a minimum of 60 percent marks in
          Mathematics as well in aggregate will be eligible to apply for this course.
        </li>
        <li>
          Those with English, Mathematics and two subjects (other than
          Physics, Chemistry, Computer Science/Informatics Practices) from List B will
          lead to a deduction of one percent marks per subject in the aggregate.
        </li>
        <li>
          Candidates must have English, Mathematics and best of the two
          subjects from Physics, Chemistry, Computer Science/Informatics Practices in
          class 12th.
        </li>
      </ul>
    </section>
  </div>
</body>
</html>

```

```

</ul>
</section>

<section class="course-structure">
  <h2>Course Structure</h2>
  <table>
    <thead>
      <tr>
        <th colspan="2">Course</th>
        <th colspan="2">Credits</th>
      </tr>
      <tr>
        <th colspan="2">&nbsp;</th>
        <th>Theory &plus; Practical</th>
        <th>Theory &plus; Practical</th>
      </tr>
    </thead>

    <tbody>
      <tr>
        <td colspan="4"><strong>Core Course</strong></td>
      </tr>
      <tr>
        <td colspan="2"><strong>(14 papers)</strong></td>
        <td>56</td>
        <td>70</td>
      </tr>
      <tr>
        <td colspan="4">
          <strong>Core Course Practical/ Tutorial*</strong>
        </td>
      </tr>
      <tr>
        <td colspan="2"><strong>(14 papers)</strong></td>
        <td>28</td>
        <td>14</td>
      </tr>

      <tr>
        <td colspan="4"><strong>Elective Course</strong></td>
      </tr>
      <tr>
        <td colspan="4"><strong>(8 Papers)</strong></td>
      </tr>
      <tr>
        <td colspan="2">A.1. Discipline Specific Elective</td>
        <td>16</td>

```

```

        <td>20</td>
    </tr>
    <tr>
        <td colspan="4"><strong>(4 Papers)</strong></td>
    </tr>
    <tr>
        <td colspan="2">
            A.2. Discipline Specific Elective Practical/ Tutorial*
        </td>
        <td>8</td>
        <td>4</td>
    </tr>
    <tr>
        <td colspan="4"><strong>(4 Papers)</strong></td>
    </tr>
    <tr>
        <td colspan="2">B.1. Generic Elective/ Interdisciplinary</td>
        <td>16</td>
        <td>20</td>
    </tr>
    <tr>
        <td colspan="4"><strong>(4 Papers)</strong></td>
    </tr>
    <tr>
        <td colspan="2">B.2. Generic Elective Practical/ Tutorial*</td>
        <td>8</td>
        <td>4</td>
    </tr>

    <tr>
        <td colspan="4"><strong>(4 Papers)</strong></td>
    </tr>
    <tr>
        <td colspan="4">
            <strong>
                >* Optional Dissertation or project work in place of one
                Discipline Specific Elective paper (6 credits) in 6th
                Semester</strong>
            >
        </td>
    </tr>

    <tr>
        <td colspan="4"><strong>Ability Enhancement
Courses</strong></td>
    </tr>
    <tr>
        <td colspan="4">

```

```

        <strong>1. Ability Enhancement Compulsory</strong>
      </td>
    </tr>
    <tr>
      <td colspan="2"><strong>(2 papers of 4 credit
each)</strong></td>
      <td> 8</td>
      <td> 4</td>
    </tr>
    <tr>
      <td colspan="4">Environmental Science</td>
    </tr>
    <tr>
      <td colspan="4">English/MIL Communication</td>
    </tr>
    <tr>
      <td colspan="2">
        <strong>2. Skill Enhancement Elective</strong>
      </td>
      <td> 8</td>
      <td> 8</td>
    </tr>
    <tr>
      <td colspan="2"><strong>(2 papers of 4 credit
each)</strong></td>
    </tr>

    <tr>
      <td colspan="2"><strong>Total Credit</strong></td>
      <td><strong>140</strong></td>
      <td><strong>140</strong></td>
    </tr>
  </tbody>

  <tfoot>
    <td colspan="2">
      <strong>
        >* wherever there is a practical there will be no tutorial and
        vice-versa</strong>
      >
    </td>
  </tfoot>
</table>
</section>

<section class="papers">
  <h2>Papers (Core)</h2>
  <ol>

```

```

    <li>Programming Fundamentals using C++</li>
    <li>Computer System Architecture</li>
    <li>Programming in JAVA</li>
    <li>Discrete Structure</li>
    <li>Data Structures</li>
    <li>Operating System</li>
    <li>Computer Networks</li>
    <li>Design and Analysis of Algorithms</li>
    <li>Software Engineering</li>
    <li>Database Management Systems</li>
    <li>Internet Technologies</li>
    <li>Theory of Computation</li>
    <li>Artificial Intelligence</li>
    <li>Computer Graphics</li>
  </ol>
  <a href="http://cs.du.ac.in/programmes/bsc/" target="_blank"
    >Go to Delhi University official site for more info</a>
  >
</section>

<section class="future">
  <h2>Future possibilities</h2>
  <div class="grid-col">
    <div class="f-container">
      <svg
        xmlns="http://www.w3.org/2000/svg"
        class="future-icons"
        fill="none"
        viewBox="0 0 24 24"
        stroke="currentColor"
        width="24px"
        height="24px"
      >
        <path
          stroke-linecap="round"
          stroke-linejoin="round"
          stroke-width="2"
          d="M16 8v8m-4-5v5m-4-2v2m-2 4h12a2 2 0 02-2V6a2 2 0 02-2-
2H6a2 2 0 02-2 2v12a2 2 0 02 2z"
        />
      </svg>
      <p class="f-heading">Data Scientist</p>
      <p class="f-content">
        Data scientists are a new breed of analytical data expert who
        have
        the technical skills to solve complex problems and curiosity to
        find out what problems needs to be solved.
      </p>

```

```

        <p>Toolkit: Data visualization, Machine learning, Deep
learning,</p>
    </div>

    <div class="f-container">
        <svg
            xmlns="http://www.w3.org/2000/svg"
            class="future-icons"
            fill="none"
            viewBox="0 0 24 24"
            stroke="currentColor"
            width="24px"
            height="24px"
        >
            <path
                stroke-linecap="round"
                stroke-linejoin="round"
                stroke-width="2"
                d="M10 20l4-4 4M6 16l-4-4 4M6 12l-4-4 4"
            />
        </svg>
        <p class="f-heading">Web Developer</p>
        <p class="f-content">
            Web developers create websites & web applications. There are 3
            main categories: Front End Developers, Back End Developers &
Full
            Stack Developers.
        </p>
        <p>Toolkit: HTML, CSS, JavaScript, PHP and</p>
    </div>

    <div class="f-container">
        <svg
            xmlns="http://www.w3.org/2000/svg"
            class="future-icons"
            fill="none"
            viewBox="0 0 24 24"
            stroke="currentColor"
            width="24px"
            height="24px"
        >
            <path
                stroke-linecap="round"
                stroke-linejoin="round"
                stroke-width="2"
                d="M12 18h.01M8 21h8a2 2 0 002-2V5a2 2 0 00-2-2H8a2 2 0 00-2
2v14a2 2 0 002 2z"
            />

```

Android

```
</svg>
<p class="f-heading">Android Developer</p>
<p class="f-content">
  An Android Developer is a Software Developer who specializes in
  designing applications, games for the Android marketplace.

  Developers also have to be trendy.
</p>

<p>Toolkit: Java, Kotlin, C/C++, MySQL Databases</p>
</div>

<div class="f-container">
  <svg
    xmlns="http://www.w3.org/2000/svg"
    class="future-icons"
    fill="none"
    viewBox="0 0 24 24"
    stroke="currentColor"
    width="24px"
    height="24px"
  >
    <path
      stroke-linecap="round"
      stroke-linejoin="round"
      stroke-width="2"
      d="M11 5H6a2 2 0 0-2 2v11a2 2 0 002 2h11a2 2 0 002 2v-5m-
1.414-9.414a2 2 0 112.828 2.828L11.828 15H9v-2.828l8.586-8.586z"
    />
  </svg>
<p class="f-heading">Graphic Designer</p>
<p class="f-content">
  Graphic designers are visual communicators, who create visual
  concepts using computer software. They communicate ideas to
  inspire and inform users through art forms..
</p>
<p>Toolkit: Adobe Illustrator, Adobe Photoshop</p>
</div>

<div class="f-container">
  <svg
    xmlns="http://www.w3.org/2000/svg"
    class="future-icons"
    fill="none"
    viewBox="0 0 24 24"
    stroke="currentColor"
    width="24px"
    height="24px"
  >
```

```

    >
    <path
      stroke-linecap="round"
      stroke-linejoin="round"
      stroke-width="2"
      d="M4 7v10c0 2.21 3.582 4 8 4s8-1.79 8-4V7M4 7c0 2.21 3.582 4
8 4s8-1.79 8-4M4 7c0-2.21 3.582-4 8-4s8 1.79 8 4m0 5c0 2.21-3.582 4-8 4s-8-
1.79-8-4"
    />
  </svg>
  <p class="f-heading">Database Manager</p>
  <p class="f-content">
    Database managers develop and maintain organization's databases.
    They create data storage and retrieval systems, troubleshoot
    database issues.
  </p>
  <p>ToolKit: MySQL,Oracle RDBMS, PhpMyAdmin</p>
</div>

<div class="f-container">
  <svg
    xmlns="http://www.w3.org/2000/svg"
    class="future-icons"
    fill="none"
    viewBox="0 0 24 24"
    stroke="currentColor"
    width="24px"
    height="24px"
  >
    <path
      stroke-linecap="round"
      stroke-linejoin="round"
      stroke-width="2"
      d="M10 20l4-16m4 4l4 4 4M6 16l-4-4 4-4"
    />
  </svg>
  <p class="f-heading">Software Engineer</p>
  <p class="f-content">
    A software engineer applies mathematical analysis and the
    principles of computer science in order to design and develop
    computer software.
  </p>
  <p>Toolkit: Programming and coding, Design and architecture</p>
</div>
</div>
</section>

<div class="add-design">

```



```
    <button class="btn">Click to design the page</button>
  </div>
</div>
```

```
<script>
  $(document).ready(function () {
    $(".add-design").click(function () {
      $("body").css({
        "background-color": "#f8f0fc",
        "font-family": "sans-serif",
        color: "#000",
        "font-size": "16px",
      });

      $(".container").css({
        width: "70%",
        margin: "0 auto",
        "margin-top": "64px",
        "line-height": "1.5",
      });

      $(".header").css({
        "background-color": "#4a464b",
        "margin-bottom": "10%",
      });

      $(".header h1").css({
        "text-align": "center",
        padding: "24px",
        "font-size": "42px",
        color: "#fff",
      });

      $(".grid-col").css({
        display: "grid",
        "grid-template-columns": "repeat(3, 1fr)",
        "column-gap": "40px",
        "column-gap": "40px",
        "row-gap": "48px",
      });

      $(".fee").css({ "margin-bottom": "10%" });

      $(".eligibility").css({ "margin-bottom": "10%" });

      $(".future").css({ "margin-bottom": "10%" });
```

```
$(".course-structure").css({ "margin-bottom": "10%" });

$(".papers").css({ "margin-bottom": "10%" });

$("a:link").css({
  "text-decoration": "none",
  color: "#fff",
  "background-color": " rgb(76, 76, 241)",
  padding: "10px",
  display: "inline-block",
  "border-radius": "10px",
  "margin-top": "12px",
  transition: "all 0.4s",
  "font-size": "16px",
});

$("a:visited").css({
  "text-decoration": "none",
  color: "#fff",
  "background-color": " rgb(76, 76, 241)",
  padding: "10px",
  display: "inline-block",
  "border-radius": "10px",
  "margin-top": "12px",
  transition: "all 0.4s",
  "font-size": "16px",
});

$(".btn").css({
  "text-decoration": "none",
  color: "#fff",
  "background-color": " rgb(76, 76, 241)",
  padding: "10px",
  display: "inline-block",
  "border-radius": "10px",
  "margin-top": "12px",
  transition: "all 0.4s",
  "font-size": "16px",
  cursor: "pointer",
  "text-transform": "uppercase",
  "letter-spacing": "0.5px",
  border: "0",
  "font-weight": "600",
});

$("a:hover").css({ "background-color": "#4a464b" });

$("a:active").css({ "background-color": "#4a464b" });
```

```
$(".btn:hover").css({ "background-color": "#4a464b" });

$("h2").css({
  "font-size": "36px",
  "margin-bottom": "28px",
});

$(".eligibility p").css({
  "margin-bottom": "18px",
});

$(".eligibility li").css({
  "list-style": "none",
  "margin-bottom": "16px",
});

$(".eligibility li:last-child ").css({ "margin-bottom": "0" });

$(".papers li").css({
  "margin-bottom": "12px",
  "padding-left": "12px",
  "margin-left": "24px",
});

$(".add-design ").css({ "margin-bottom": "10%" });

$(".f-heading").css({
  "font-size": "18px",
  "margin-bottom": "8px",
});

$(".future-icons").css({
  stroke: " rgb(76, 76, 241)",
  width: "24px",
  height: "24px",
  "margin-bottom": "12px",
});

$("table").css({
  "border-collapse": "collapse",
});

$("table td").css({
  padding: "16px 32px",
});

$("table table th").css({
```

```

        width: "40%",
    });

    $("thead tr:nth-child(2)").css({
        "text-align": "center",
    });

    $("tbody tr td:not(:first-child)").css({
        "text-align": "center",
    });

    $("tbody tr:nth-child(even)").css({
        "background-color": "#6eecaf",
    });

    $("tbody tr:nth-child(odd)").css({
        "background-color": "#eeeeeeefb",
    });

    $("thead tr").css({
        "background-color": " rgb(76, 76, 241)",
        color: "#fff",
    });

    $("table th").css({
        padding: "16px 32px",
    });

    $("footer").css({
        "text-align": "center",
        "border-bottom": "8px solid  rgb(76, 76, 241)",
    });
});
});
</script>

</body>
</html>

```

OUTPUT:

LINK: <https://hardikbhanot.github.io/IT-PRACTICAL/8th>

BSc (Hons) Computer Science

Fee

The professional course of BSc. (Hons) Computer Science has a fee ranging between 45,000-50,000 INR varying college-wise at The University of Delhi.

Eligibility

DU B Sc (Hons) Computer Science Eligibility Criteria 2022, basic Requirements:

Candidates who have secured a minimum of 60 percent marks in Mathematics as well in aggregate will be eligible to apply for this course.

Those with English, Mathematics and two subjects (other than Physics, Chemistry, Computer Science/Informatics Practices) from List B will lead to a deduction of one percent marks per subject in the aggregate.

Candidates must have English, Mathematics and best of the two subjects from Physics, Chemistry, Computer Science/Informatics Practices in class 12th.

Course Structure

Course	Credits	
	Theory + Practical	Theory + Practical
Core Course		
(14 papers)	56	70
Core Course Practical/ Tutorial*		
(14 papers)	28	14
Elective Course		
(8 Papers)		
A.1. Discipline Specific Elective	16	20
(4 Papers)		
A.2. Discipline Specific Elective Practical/ Tutorial*	8	4
(4 Papers)		
B.1. Generic Elective/ Interdisciplinary	16	20
(4 Papers)		
B.2. Generic Elective Practical/ Tutorial*	8	4
(4 Papers)		
* Optional Dissertation or project work in place of one Discipline Specific Elective paper (6 credits) in 6th Semester		
Ability Enhancement Courses		
1. Ability Enhancement Compulsory		
(2 papers of 4 credit each)	8	4
Environmental Science		
English/MIL Communication		
2. Skill Enhancement Elective		
(2 papers of 4 credit each)	8	8
Total Credit	140	140

* wherever there is a practical there will be no tutorial and vice-versa

Papers (Core)

Data Structures
Operating System
Computer Networks
Design and Analysis of Algorithms
Software Engineering
Database Management Systems
Internet Technologies
Theory of Computation
Artificial Intelligence
Computer Graphics

[Go to Delhi University official site for more info](#)

Future possibilities



Data Scientist

Data scientists are a new breed of analytical data expert who have the technical skills to solve complex problems and curiosity to find out what problems needs to be solved.

Toolkit: Data visualization, Machine learning, Deep learning,

</>

Web Developer

Web developers create websites & web applications. There are 3 main categories: Front End Developers, Back End Developers & Full Stack Developers.

Toolkit: HTML, CSS, JavaScript, PHP and



Android Developer

An Android Developer is a Software Developer who specializes in designing applications, games for the Android marketplace. Android Developers also have to be trendy.

Toolkit: Java, Kotlin, C/C++, MySQL Databases



Graphic Designer

Graphic designers are visual communicators, who create visual concepts using computer software. They communicate ideas to inspire and inform users through art forms..

Toolkit: Adobe Illustrator, Adobe Photoshop



Database Manager

Database managers develop and maintain organization's databases. They create data storage and retrieval systems, troubleshoot database issues.

ToolKit: MySQL, Oracle RDBMS, PhpMyAdmin

</>

Software Engineer

A software engineer applies mathematical analysis and the principles of computer science in order to design and develop computer software.

Toolkit: Programming and coding, Design and architecture

[Click to design the page](#)

Course Structure

Course	Credits	
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Core Course		
(14 papers)	56	70
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(8 Papers)		
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(4 Papers)		
A.2. Discipline Specific Elective Practical/ Tutorial*	8	4

(4 Papers)		
B.1. Generic Elective/ Interdisciplinary	16	20
(4 Papers)		
B.2. Generic Elective Practical/ Tutorial*	8	4
(4 Papers)		
* Optional Dissertation or project work in place of one Discipline Specific Elective paper (6 credits) in 6th Semester		
Ability Enhancement Courses		
1. Ability Enhancement Compulsory		
(2 papers of 4 credit each)	8	4
Environmental Science		
English/MIL Communication		
2. Skill Enhancement Elective	8	8
(2 papers of 4 credit each)		
Total Credit	140	140

Papers (Core)

1. Programming Fundamentals using C++
2. Computer System Architecture
3. Programming in JAVA
4. Discrete Structure
5. Data Structures
6. Operating System
7. Computer Networks
8. Design and Analysis of Algorithms
9. Software Engineering
10. Database Management Systems
11. Internet Technologies
12. Theory of Computation
13. Artificial Intelligence
14. Computer Graphics

[Go to Delhi University official site for more info](#)

Future possibilities



Data Scientist

Data scientists are a new breed of analytical data expert who have the technical skills to solve complex problems and curiosity to find out what problems needs to be solved.
Toolkit: Data visualization, Machine learning, Deep learning,



Web Developer

Web developers create websites & web applications. There are 3 main categories: Front End Developers, Back End Developers & Full Stack Developers.
Toolkit: HTML, CSS, JavaScript, PHP and



Android Developer

An Android Developer is a Software Developer who specializes in designing applications, games for the Android marketplace. Android Developers also have to be trendy.
Toolkit: Java, Kotlin, C/C++, MySQL Databases



Graphic Designer

Graphic designers are visual communicators, who create visual concepts using computer software. They communicate ideas to inspire and inform users through art forms..
Toolkit: Adobe Illustrator, Adobe Photoshop



Database Manager

Database managers develop and maintain organization's databases. They create data storage and retrieval systems, troubleshoot database issues.
Toolkit: MySQL, Oracle RDBMS, PhpMyAdmin



Software Engineer

A software engineer applies mathematical analysis and the principles of computer science in order to design and develop computer software.
Toolkit: Programming and coding, Design and architecture

[CLICK TO DESIGN THE PAGE](#)

9. Create an HTML page for an image gallery which shows the use of BOOTSTRAP to rearrange and resize its contents on resizing the browser.

CODE:

LINK: <https://github.com/Hardikbhanot/IT-PRACTICAL/blob/main/9th.html>

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Bootstrap gallery</title>
  <link
href="//maxcdn.bootstrapcdn.com/bootstrap/4.1.1/css/bootstrap.min.css"
rel="stylesheet" id="bootstrap-css">
<script
src="//maxcdn.bootstrapcdn.com/bootstrap/4.1.1/js/bootstrap.min.js"></script>
<script
src="//cdnjs.cloudflare.com/ajax/libs/jquery/3.2.1/jquery.min.js"></script>
<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/magnific-
popup.js/1.1.0/magnific-popup.css" />
<script
src="https://cdnjs.cloudflare.com/ajax/libs/jquery.isotope/3.0.6/isotope.pkgd.
js"></script>
<script src="https://cdnjs.cloudflare.com/ajax/libs/magnific-
popup.js/1.1.0/jquery.magnific-popup.js"></script>

<style>

body{
  margin:0;
  padding:0;
}
/* .container{
  width:90%
  margin:10px auto;
} */

.portfolio-item{
  /*width:100%;*/
}
.portfolio-item .item{
  /*width:303px;*/
  float:left;
  margin-bottom:10px;
}
```

```
</style>
</head>
<body>
  <div class="container">
    <div class="row">
      <div class="col-lg-10 text-center my-2">
        <h4>Practical 9th Gallery Bootstrap</h4>
      </div>
    </div>

    <div class="portfolio-item row">
      <div class="item selfie col-lg-3 col-md-4 col-6 col-sm">
        <a href="https://images.unsplash.com/photo-1539697986717-ac7aeef3db66?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w=387&q=80" class="fancylight popup-btn" data-fancybox-group="light">
          
        </a>
      </div>
      <div class="item gts col-lg-3 col-md-4 col-6 col-sm">
        <a href="https://images.unsplash.com/photo-1539023918645-8a5a85a822c0?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancylight popup-btn" data-fancybox-group="light">
          
        </a>
      </div>
      <div class="item selfie col-lg-3 col-md-4 col-6 col-sm">
        <a href="https://images.unsplash.com/photo-1539674301301-46518fda6008?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w=387&q=80" class="fancylight popup-btn" data-fancybox-group="light">
          
        </a>
      </div>
      <div class="item gts col-lg-3 col-md-4 col-6 col-sm">
        <a href="https://images.unsplash.com/photo-1539716865555-e9caa9ed1ac2?ixlib=rb-
```



```
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancy light popup-btn" data-fancybox-group="light">
    
    </a>
</div>
<div class="item gts col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1539694733968-e596c9f9afda?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=387&q=80" class="fancy light popup-btn" data-fancybox-group="light">
    
    </a>
</div>
<div class="item gts col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1539126408816-e8ce44955462?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancy light popup-btn" data-fancybox-group="light">
    
    </a>
</div>
<div class="item lap col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1539718110656-942f6db1bfa0?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancy light popup-btn" data-fancybox-group="light">
    
    </a>
</div>
<div class="item lap col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1539712112688-99d7315f29ca?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancy light popup-btn" data-fancybox-group="light">
    </a>
</div>
<div class="item gts col-lg-3 col-md-4 col-6 col-sm">
  <a href="https://images.unsplash.com/photo-1539676890708-8ba8e94e130e?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    </a>
  </div>
  <div class="item lap col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1514418197935-e0cac2bb695a?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancylight popup-btn" data-fancybox-group="light">
      </a>
    </div>
    <div class="item gts col-lg-3 col-md-4 col-6 col-sm">
      <a href="https://images.unsplash.com/photo-1532693322450-2cb5c511067d?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=388&q=80" class="fancylight popup-btn" data-fancybox-group="light">
        </a>
      </div>
      <div class="item gts col-lg-3 col-md-4 col-6 col-sm">
        <a href="https://images.unsplash.com/photo-1514418197935-e0cac2bb695a?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancylight popup-btn" data-fancybox-group="light">
          </a>
        </div>
```

```
<div class="item gts col-lg-3 col-md-4 col-6 col-sm">
  <a href="https://images.unsplash.com/photo-1500389783522-18c9d0d14cbc?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w=387&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    
  </a>
</div>
<div class="item gts col-lg-3 col-md-4 col-6 col-sm">
  <a href="https://images.unsplash.com/photo-1513237739339-5696060a5359?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    
  </a>
</div>
<div class="item lap col-lg-3 col-md-4 col-6 col-sm">
  <a href="https://images.unsplash.com/photo-1529738609971-27263e03fce4?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w=1174&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    
  </a>
</div>
<div class="item gts col-lg-3 col-md-4 col-6 col-sm">
  <a href="https://images.unsplash.com/photo-1484538162795-891443f6074f?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w=1074&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    
  </a>
</div>
<div class="item gts col-lg-3 col-md-4 col-6 col-sm">
  <a href="https://images.unsplash.com/photo-1530053969600-caed2596d242?ixlib=rb-
```

```
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w=1074&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    
    </a>
</div>
<div class="item selfie col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1517080915377-c44ce4921df1?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w=1228&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    
    </a>
</div>
<div class="item selfie col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1485433592409-9018e83a1f0d?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w=421&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    
    </a>
</div>
<div class="item selfie col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1507388412350-cb43abdebced?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    
    </a>
</div>
<div class="item lap col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1539126408816-e8ce44955462?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    </a>
</div>
<div class="item lap col-lg-3 col-md-4 col-6 col-sm">
  <a href="https://image.freepik.com/free-photo/business-woman-working-laptop_1388-67.jpg" class="fancylight popup-btn" data-fancybox-group="light">
    </a>
  </div>
  <div class="item lap col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1539139329395-ceb575183d8b?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w=1074&q=80" class="fancylight popup-btn" data-fancybox-group="light">
      </a>
    </div>
    <div class="item gts col-lg-3 col-md-4 col-6 col-sm">
      <a href="https://images.unsplash.com/photo-1508527951275-84b4bfe1be1a?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w=387&q=80" class="fancylight popup-btn" data-fancybox-group="light">
        </a>
      </div>
      <div class="item gts col-lg-3 col-md-4 col-6 col-sm">
        <a href="https://images.unsplash.com/photo-1539362286735-21789f9187f7?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancylight popup-btn" data-fancybox-group="light">
          </a>
        </div>
        <div class="item gts col-lg-3 col-md-4 col-6 col-sm">
          <a href="https://images.unsplash.com/photo-1512987415479-85f370bca602?ixlib=rb-
```

```
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancy light popup-btn" data-fancybox-group="light">
    
    </a>
</div>
<div class="item lap col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1476970980147-71209edbfa4f?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancy light popup-btn" data-fancybox-group="light">
    
    </a>
</div>
<div class="item lap col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1529419412599-7bb870e11810?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=387&q=80" class="fancy light popup-btn" data-fancybox-group="light">
    
    </a>
</div>
<div class="item lap col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-152009061071-659eaf168151?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1073&q=80" class="fancy light popup-btn" data-fancybox-group="light">
    
    </a>
</div>
<div class="item lap col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1476970980147-71209edbfa4f?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancy light popup-btn" data-fancybox-group="light">
    <img class="img-fluid" src="https://images.unsplash.com/photo-1476970980147-71209edbfa4f?ixlib=rb-
```



```
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1170&q=80" alt=""></a>
</div>
<div class="item lap col-lg-3 col-md-4 col-6 col-sm">
  <a href="https://images.unsplash.com/photo-1533208705114-4f6b97d68ab1?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1172&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    </a>
  </div>
  <div class="item selfie col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1475776408506-9a5371e7a068?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1058&q=80" class="fancylight popup-btn" data-fancybox-group="light">
      </a>
    </div>
    <div class="item selfie col-lg-3 col-md-4 col-6 col-sm">
      <a href="https://images.unsplash.com/photo-1512987415479-85f370bca602?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1170&q=80" class="fancylight popup-btn" data-fancybox-group="light">
        </a>
      </div>
      <div class="item lap col-lg-3 col-md-4 col-6 col-sm">
        <a href="https://images.unsplash.com/photo-1520009061071-659eaf168151?ixlib=rb-4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVuFDB8fHx8&auto=format&fit=crop&w=1073&q=80" class="fancylight popup-btn" data-fancybox-group="light">
          </a>
        </div>
```

```
<div class="item selfie col-lg-3 col-md-4 col-6 col-sm">
  <a href="https://images.unsplash.com/photo-1512987415479-
85f370bca602?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w
=1170&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    
  </a>
</div>
<div class="item selfie col-lg-3 col-md-4 col-6 col-sm">
  <a href="https://images.unsplash.com/photo-1539674301301-
46518fda6008?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w
=387&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    
  </a>
</div>
<div class="item selfie col-lg-3 col-md-4 col-6 col-sm">
  <a href="https://images.unsplash.com/photo-1475776408506-
9a5371e7a068?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w
=1058&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    
  </a>
</div>
<div class="item selfie col-lg-3 col-md-4 col-6 col-sm">
  <a href="https://images.unsplash.com/photo-1507388412350-
cb43abdebced?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w
=1170&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    
  </a>
</div>
<div class="item selfie col-lg-3 col-6 col-sm">
  <a href="https://images.unsplash.com/photo-1503965830912-
6d7b07921cd1?ixlib=rb-
```



```

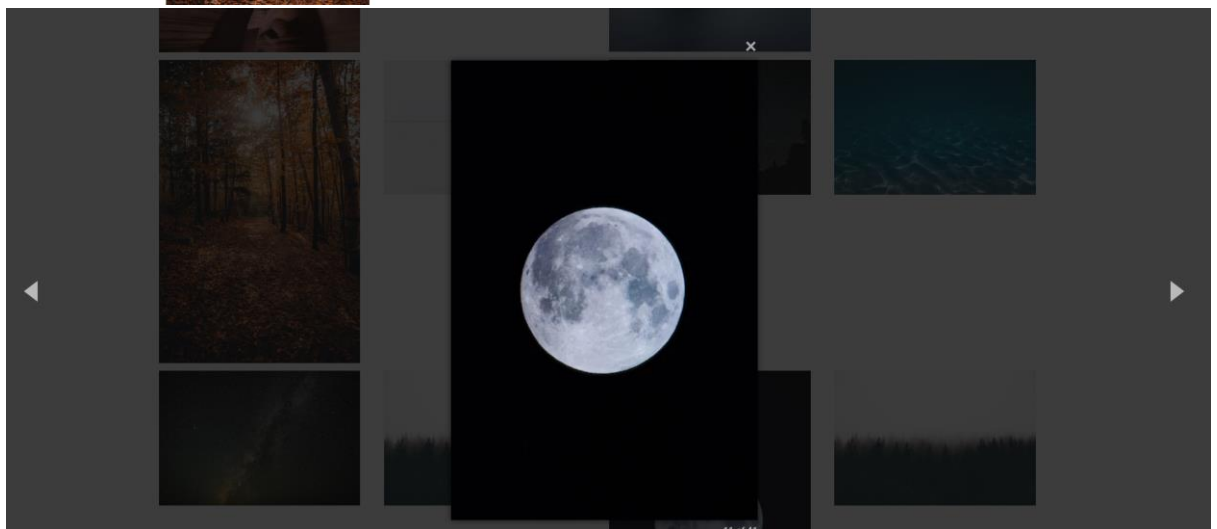
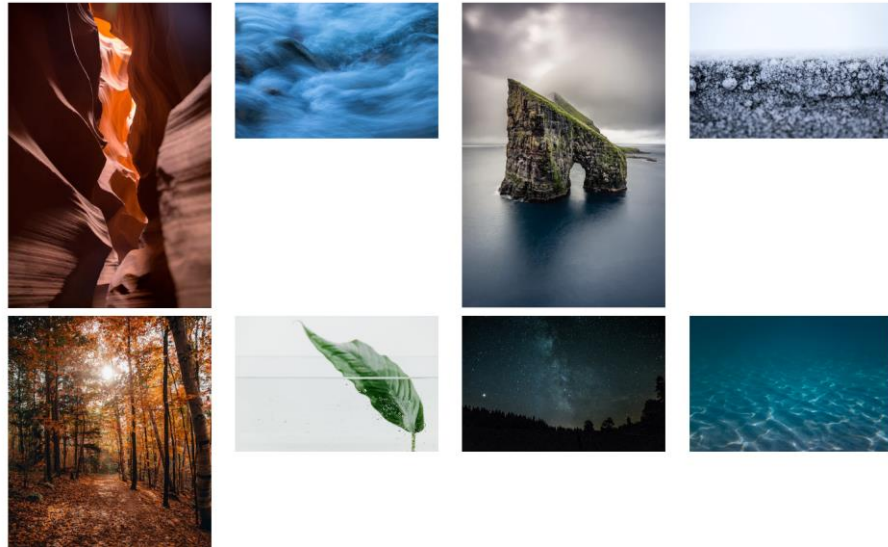
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w
=1074&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    
    </a>
</div>
<div class="item selfie col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1435224654926-
ecc9f7fa028c?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w
=387&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    
    </a>
</div>
<div class="item selfie col-lg-3 col-md-4 col-6 col-sm">
    <a href="https://images.unsplash.com/photo-1503965830912-
6d7b07921cd1?ixlib=rb-
4.0.3&ixid=MnwxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8&auto=format&fit=crop&w
=1074&q=80" class="fancylight popup-btn" data-fancybox-group="light">
    
    </a>
</div>
</div>
</div>
</div>
<script>
    $(document).ready(function() {
        var popup_btn = $('.popup-btn');
        popup_btn.magnificPopup({
            type : 'image',
            gallery : {
                enabled : true
            }
        });
    });
</script>
</body>
</html>

```

OUTPUT:

LINK: <https://hardikbhanot.github.io/IT-PRACTICAL/9th>

Practical 9th Gallery Bootstrap



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.

CODE:

LINK: <https://github.com/Hardikbhanot/IT-PRACTICAL/blob/main/10th>

index.js

```
const http= require('http');
const port = 10000;
const hostName='localhost';
const server = http.createServer((request, result) => {
  result.statusCode = 200;
  result.setHeader("Content-Type", "text/plain");
  result.end("Hello World, this is my Node.js server");
});

server.listen(port, hostName, () => {
  console.log(`Server running at http://${hostName}:${port}/`);
});
```

Package.json

```
{
  "name": "practical-10th",
  "version": "1.0.0",
  "description": "node js practical ques 10th",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "author": "",
  "license": "ISC"
}
```

OUTPUT:

```
Hello World, this is my Node.js server
```

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.

CODE:- Signup.html

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Document</title>
</head>
<style>
  * {
    box-sizing: border-box;
  }
  body {
    background-color: #943850;
  }
  form {
    margin-left: 25%;
    margin-top: 5%;
    max-width: 50%;
    background-color: #2fa7c9;
    color: black;
  }

  input[type="text"],
  input[type="password"] {
    width: 100%;
    padding: 5px;
    margin: 5px 0 22px 0;
    display: inline-block;
    border: none;
    font-size: 1.3rem;
    background: #f1f1f1;
  }
  input[type="text"]:focus,
  input[type="password"]:focus {
    background-color: #ddd;
    outline: none;
  }
  hr {
```

```

    border: 1px solid #f1f1f1;
    margin-bottom: 25px;
}

button {
    background-color: #273fca;
    color: white;
    padding: 14px 20px;
    margin: 8px 0;
    border: none;
    cursor: pointer;
    width: 100%;
    scale: 0.95;
}

button:hover {
    scale: 1.2;
}

.signupbtn {
    float: left;
    width: 30%;
}

.container {
    padding: 16px;
}

.clearfix::after {
    content: "";
    clear: both;
    display: table;
}

</style>
<body>
<form action="http://localhost:10000/signup" method="post"
enctype="text/plain">
<div class="container">
<h1>Sign Up</h1>
<p>Please fill in this form to create an account.</p>
<hr>
<label for="psw-repeat"><b>Name</b></label>
<input type="text" placeholder="name" name="name" required>
<label for="email"><b>Email</b></label>
<input type="text" placeholder="Enter Email" name="email" required>
<label for="psw"><b>Password</b></label>
<input type="password" placeholder="Enter Password" name="password" required>

```

```

<div class="clearfix">
<button type="submit" class="signupbtn">Sign Up</button>
</div>
</div>
</form>
</body>
</html>

```

Login.html

```

<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Document</title>
  </head>
  <style>
    * {
      box-sizing: border-box;
    }
    body {
      background-color: #943850;
    }
    form {
      margin-left: 25%;
      margin-top: 5%;
      max-width: 50%;
      background-color: #2fa7c9;
      color: black;
    }

    input[type="text"],
    input[type="password"] {
      width: 100%;
      padding: 5px;
      margin: 5px 0 22px 0;
      display: inline-block;
      border: none;
      font-size: 1.3rem;
      background: #f1f1f1;
    }
    input[type="text"]:focus,
    input[type="password"]:focus {
      background-color: #ddd;
      outline: none;
    }
  </style>

```

```

}
hr {
  border: 1px solid #f1f1f1;
  margin-bottom: 25px;
}
/* Set a style for all buttons */
button {
  background-color: #273fca;
  color: white;
  padding: 14px 20px;
  margin: 8px 0;
  border: none;
  cursor: pointer;
  width: 100%;
  scale: 0.95;
}
button:hover {
  scale: 1.2;
}

/* Float cancel and signup buttons and add an equal width */
.signupbtn {
  float: left;
  width: 30%;
}
/* Add padding to container elements */
.container {
  padding: 16px;
}
/* Clear floats */
.clearfix::after {
  content: "";
  clear: both;
  display: table;
}
/* Change styles for cancel button and signup button on extra small
screens */
@media screen and (max-width: 300px) {
  .signupbtn {
    width: 100%;
  }
}
</style>
<body>
  <form
    action="http://localhost:10000/login"
    method="post"
    enctype="text/plain"

```



```

>
<div class="container">
  <h1>LogIn</h1>
  <hr />
  <label for="email"><b>Email</b></label>
  <input type="text" placeholder="Enter Email" name="email" required />
  <label for="psw"><b>Password</b></label>
  <input
    type="password"
    placeholder="Enter Password"
    name="password"
    required
  />
  <p>
    Don't have an account?
    <a href="./signup.html" style="color: dodgerblue">SignUp</a>.
  </p>
  <div class="clearfix">
    <button type="submit" class="signupbtn">LogIn</button>
  </div>
</div>
</form>
</body>
</html>

```

index.js

```

const http = require("http");
const mysql = require("mysql");
const StringDecoder = require("string_decoder");
const host = "localhost";
const port = 10000;
var con = mysql.createConnection({
  host: "localhost",
  user: "root",
  password: "",
  database: "user_data",
});
con.connect((err) => {
  if (err) throw err;
  console.log("Connected!");
});
const requestListener = async (req, res) => {
  res.setHeader("Content-Type", "application/json");
  switch (req.url) {
    case "/login":
      req.on("data", (content) => {

```

```

        let content_init = content.toString();
        content_init = content_init.replaceAll("=", ":");
        content_init = content_init.split("\r\n");
        let email = content_init[0].split(":")[1];
        let password = content_init[1].split(":")[1];
        con.query(
            `select * from users where email=? and password=?`,
            [email, password],
            function (err, result) {
                if (err) {
                    res.writeHead(500);
                    res.end(JSON.stringify({ messages: "Error Occured"
})));
                }
                res.writeHead(302, {
                    location: "/",
                });
                res.end(JSON.stringify(result[0]));
            }
        );
    });
    break;
case "/signup":
    req.on("data", (content) => {
        let content_init = content.toString();
        content_init = content_init.replaceAll("=", ":");
        content_init = content_init.split("\r\n");
        namee = content_init[0].split(":")[1];
        email = content_init[1].split(":")[1];
        password = content_init[2].split(":")[1];
        con.query(
            `insert into users values (?)`,
            [[namee, email, password]],
            function (err, result) {
                if (err) throw err;
                res.writeHead(302, {
                    location: "/",
                });
                res.end(JSON.stringify(result[0]));
            }
        );
    });
    break;
default:
    res.writeHead(200);
    res.end(JSON.stringify({ message: "Welcome" }));
}
};

```

```
const server = http.createServer(requestListener);
server.listen(port, host, () => {
  console.log(`Server listening on http://${host}:${port}`);
});
```

OUTPUT:

Sign Up

Please fill in this form to create an account.

Name

hardik

Email

hardikbhanot123@gmail.com

Password

Enter Password

Sign Up

LogIn

Email

Enter Email

Password

Enter Password

Don't have an account? [Sign Up](#).

Login