

1)To develop web page using HTML5.0 having table, form and lists.

HTML:

```
<!DOCTYPE html>

<html>

<head>

  <link rel="stylesheet" href="b.css">

</head>

<body>


<div class="container">

  <h1>Admission Form</h1>


  <div class="image-container">

    

  </div>


  <form>

    <div class="form-field">

      <label for="fname">First name:</label>

      <input type="text" id="fname" name="fname" value="">

    </div>


    <div class="form-field">

      <label for="lname">Last name:</label>

      <input type="text" id="lname" name="lname" value="">

    </div>


    <div class="form-field">

      <label for="age">Age:</label>

      <input type="text" id="age" name="age" value="">

    </div>

  </form>

</div>
```

```
<div class="form-field">

  <label for="contact">Contact No:</label>

  <input type="text" id="contact" name="contact" value="">

</div>

</form>
```

```
<form>

<p>Choose your Gender:</p>

<div class="radio-group">

  <input type="radio" id="male" name="Gender" value="Male">

  <label for="male">Male</label>

</div>

<div class="radio-group">

  <input type="radio" id="female" name="Gender" value="Female">

  <label for="female">Female</label>

</div>

<div class="radio-group">

  <input type="radio" id="others" name="Gender" value="Others">

  <label for="others">Others</label>

</div>

</form>
```

```
<form>

<p>Choose your preferred Fields:</p>

<div class="checkbox-group">

  <input type="checkbox" id="cs" name="fields" value="Computer Science">

  <label for="cs">Computer Science</label>

</div>

<div class="checkbox-group">

  <input type="checkbox" id="it" name="fields" value="Information Technology">
```

```
<label for="it">Information Technology</label>
</div>
<div class="checkbox-group">
  <input type="checkbox" id="et" name="fields" value="Electronics">
  <label for="et">Electronics</label>
</div>
<div class="checkbox-group">
  <input type="checkbox" id="ds" name="fields" value="Data Science">
  <label for="ds">Data Science</label>
</div>
<div class="checkbox-group">
  <input type="checkbox" id="aiml" name="fields" value="Artificial Intelligence and Machine Learning">
  <label for="aiml">Artificial Intelligence and Machine Learning</label>
</div>
</form>
```

<h2>Number of seats in Branches</h2>

```
<table>
<tr>
  <th>Branch</th>
  <th>NO. of Seats</th>
</tr>
<tr>
  <td>Computer Science</td>
  <td>180</td>
</tr>
<tr>
  <td>Information Technology</td>
  <td>180</td>
```

```
</tr>

<tr>

  <td>Electronics</td>

  <td>60</td>

</tr>

<tr>

  <td>Data Science</td>

  <td>120</td>

</tr>

<tr>

  <td>Artificial Intelligence and Machine Learning</td>

  <td>120</td>

</tr>

</table>
```

```
<form>

  <input type="submit" value="Submit">

</form>

</div>
```

```
</body>

</html>
```

CSS:

```
body {

  font-family: Arial, sans-serif;

  line-height: 1.6;

  margin: 0;

  padding: 0;
```

```
background-color: black; /* Set the window background color to black */  
color: white; /* Set text color to white */  
}
```

```
h1, h2 {  
    text-align: center;  
    color: white; /* Set header text color to white */  
}
```

```
.image-container {  
    text-align: center;  
    margin-bottom: 20px;  
}
```

```
img {  
    width: 100%; /* Set image width to match the container */  
    height: auto; /* Maintain aspect ratio */  
    max-width: 300px; /* Optional: Set a max-width if needed */  
    border-radius: 8px;  
    box-shadow: 0 4px 8px rgba(0, 0, 0, 0.2);  
}
```

```
.container {  
    width: 80%;  
    margin: auto;  
    overflow: hidden;  
}
```

```
form {  
    background: #333; /* Set form background color to dark grey */  
    padding: 20px;
```

```
border-radius: 8px;
box-shadow: 0 4px 8px rgba(0, 0, 0, 0.1);
margin-bottom: 20px;
}
```

```
.form-field {
  margin-bottom: 20px;
}
```

```
.form-field label {
  display: block;
  margin: 10px 0 5px;
  color: white; /* Set label text color to white */
}
```

```
.form-field input[type="text"] {
  width: calc(100% - 22px);
  padding: 10px;
  border: 1px solid #555; /* Set input border color to dark grey */
  border-radius: 4px;
  box-sizing: border-box;
  background-color: #222; /* Set input background color to darker grey */
  color: white; /* Set input text color to white */
}
```

```
.radio-group, .checkbox-group {
  display: flex;
  align-items: center;
  margin-bottom: 10px;
}
```

```
.radio-group input[type="radio"], .checkbox-group input[type="checkbox"] {  
    margin-right: 10px;  
    accent-color: white; /* Set radio and checkbox accent color to white */  
}
```

```
form input[type="submit"] {  
    background: black;  
    border: none;  
    color: white;  
    padding: 10px 20px;  
    border-radius: 4px;  
    cursor: pointer;  
    font-size: 16px;  
}
```

```
form input[type="submit"]:hover {  
    background: #4cae4c; /* Change hover color to a lighter greenish color */  
}
```

```
table {  
    width: 100%;  
    border-collapse: collapse;  
    margin: 20px 0;  
}
```

```
table th, table td {  
    border: 1px solid #555; /* Set table borders to dark grey */  
    padding: 10px;  
    text-align: left;  
}
```

```
table th {
    background-color: #333; /* Set table header background to dark grey */
    color: white; /* Set table header text color to white */
}
```

```
table td {
    background-color: #222; /* Set table cell background to darker grey */
}
```

2)To design wabpage using CSS3 with properties and styles.

index.html:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Table</title>
    <script src="https://kit.fontawesome.com/a076d05399.js"></script>
    <link rel="stylesheet"
        href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.6.0/css/all.min.css"
        integrity="sha512-
Kc323vGBEqzTmouAECnVceyQqyqdsSiqLQISBL29aUW4U/M7pSPA/gEUZQqv1cwx4OnYxTxve5UMg5G
T6L4JJg=="
        crossorigin="anonymous" referrerpolicy="no-referrer" />
    <style>
        * {
            box-sizing: border-box;
        }
```



```
.base {  
    border: 5px groove grey;  
    padding: 50px;  
    padding-bottom: 80px;  
}
```

```
.con1 {  
    display: inline-block;  
    width: 33%;  
    float: left;  
    margin-bottom: 10px;  
}
```

```
.right {  
    float: right;  
    margin-bottom: 10px;  
}
```

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

```
.p1 {  
    text-align: center;  
    font-size: 1.7em;  
}
```

```
table {  
    width: 100%;
```

```
border-collapse: collapse;

margin-bottom: 15px;

}
```

```
th, td {

    text-align: left;

    padding: 5px;

    border: 1px solid #ddd;

}
```

```
input[type="text"] {

    background-image:
url('https://www.google.com/imgres?imgurl=https%3A%2F%2Fimage.shutterstock.com%2Fimage-
vector%2Foutline-search-icon-illustration-vector-
260nw753573802.jpg&imgrefurl=https%3A%2F%2Fwww.shutterstock.com%2Fsearch%2Fsearch%2Bi
con&tbnid=npAAyCtuCeC91M&vet=10CAUQxiAoA2oXChMlyKfH27jM5wIVAAAAAB0AAAAAEAc..i&do
cid=HeqpQe314bS56M&w=260&h=280&itg=1&q=search%20icon%20for%20text%20box%20.png&v
ed=0CAUQxiAoA2oXChMlyKfH27jM5wIVAAAAAB0AAAAAEAc');

    background-repeat: no-repeat;

    background-position: top left;

}
```

```
button {

    border: none;

    border-radius: 50%;

    padding: 6px 10px;

}
```

```
.fa-eye {

    color: #04a9f4;

}
```

```
.fa-pen {
```

```
        color: #ffc207;
    }

    .fa-trash-alt {
        color: #e34724;
    }
</style>
</head>
<body>
    <div class="base">
        <div class="clear">
            <div class="con1">
                Show
                <select>
                    <option>1</option>
                    <option>2</option>
                    <option>3</option>
                    <option>4</option>
                    <option id="5" selected="5">5</option>
                    <option>6</option>
                </select>
                entries
            </div>
            <div class="con1">
                <p class="p1">Customer <strong>Details</strong></p>
            </div>
            <div class="con1">
                <input type="text" name="search" placeholder="search" style="float: right; margin-top:
30px;">
            </div>
        </div>
    </div>
</div>
```

<div class="container">

|
 # | Name *fa fa-sort* | Address | City | Pincode | Country | Actions ||
 1 | Thomas Hardy | 89 Chiarsco Rd. | Portland | 91219 | USA | |

<i class="fas fa-eye"></i>

<i class="fas fa-pen"></i>

`<i class="far fa-trash-alt"></i>`

</td>

|
 2 | Maria Anders | Obere Str.57 | Berlin | 12209 |

Germany	<div> <div></div> <div></div> <div></div> </div>
<div> <div></div> <div></div> <div></div> </div>	<div> <div></div> <div></div> <div></div> </div>
3	<div> <div></div> <div></div> <div></div> </div>
Fran Wilson	<div> <div></div> <div></div> <div></div> </div>
C/Araquil,67	<div> <div></div> <div></div> <div></div> </div>
Madrid	<div> <div></div> <div></div> <div></div> </div>
28023	<div> <div></div> <div></div> <div></div> </div>
Spain	<div> <div></div> <div></div> <div></div> </div>
<div> <div></div> <div></div> <div></div> </div>	<div> <div></div> <div></div> <div></div> </div>
4	<div> <div></div> <div></div> <div></div> </div>
Dominic Perrier	<div> <div></div> <div></div> <div></div> </div>
25, rue Lauriston	<div> <div></div> <div></div> <div></div> </div>
Paris	<div> <div></div> <div></div> <div></div> </div>
75016	<div> <div></div> <div></div> <div></div> </div>
France	<div> <div></div> <div></div> <div></div> </div>
<div> <div></div> <div></div> <div></div> </div>	<div> <div></div> <div></div> <div></div> </div>

```

    </td>
</tr>
<tr>
    <td>5</td>
    <td>Martin Blank</td>
    <td>Via Montebianco 34</td>
    <td>Turin</td>
    <td>10100</td>
    <td>Italy</td>
    <td>
        <i class="fas fa-eye"></i>&nbsp;
        <i class="fas fa-pen"></i>&nbsp;
        <i class="far fa-trash-alt"></i>
    </td>
</tr>
</table>
</div>

```

```

<div class="clear">
    <div class="left">Showing <strong>5</strong> out of <strong>25</strong> entries</div>
    <div class="right">
        <button type="button" style="border-radius: 0;">Previous</button>
        <button type="button">1</button>
        <button type="button">2</button>
        <button type="button" style="background-color: #04a9f4;">3</button>
        <button type="button">4</button>
        <button type="button">5</button>
        <button type="button" style="border-radius: 0;">Next</button>
    </div>
</div>
</div>

```

```
</body>
```

```
</html>
```

3)Constructresponsive website using Bootstrap.

HTML:

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
<!-- Required meta tags -->
```

```
<meta charset="utf-8" />
```

```
<meta name="viewport" content="width=device-width, initial-scale=1" />
```

```
<!-- Bootstrap CSS -->
```

```
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta2/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
BmbxuPwQa2lc/FVzBcNJ7UAyJxM6wuqlj61tLrc4wSX0szH/Ev+nYRRuWlolfffl"
crossorigin="anonymous" />
```

```
<!-- Custom CSS -->
```

```
<link rel="stylesheet" href="style.css" />
```

```
<!-- Google Fonts -->
```

```
<link rel="preconnect" href="https://fonts.gstatic.com" />
```

```
<link href="https://fonts.googleapis.com/css2?family=Roboto+Condensed&display=swap"
rel="stylesheet" />
```

```
<title>A.P. Shah</title>
```

```
</head>
```

```
<body>
```

```
<!-- Navbar -->
```

```
<section id="navbar">
```

```
<nav class="navbar navbar-expand-lg navbar-light">
```

```

<div class="container-fluid">

  <a class="navbar-brand" href="#">College of Engineering</a>

  <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-
target="#navbarSupportedContent" aria-controls="navbarSupportedContent" aria-expanded="false"
aria-label="Toggle navigation">

    <span class="navbar-toggler-icon"></span>

  </button>

  <div class="collapse navbar-collapse" id="navbarSupportedContent">

    <ul class="navbar-nav m-auto">

      <li class="nav-item"><a class="nav-link active" aria-current="page" href="#">Home</a></li>

      <li class="nav-item"><a class="nav-link" href="#service">Services</a></li>

      <li class="nav-item"><a class="nav-link" href="#about">About Us</a></li>

      <li class="nav-item"><a class="nav-link" href="#product">Products</a></li>

      <li class="nav-item"><a class="nav-link" href="#social">Contact Us</a></li>

    </ul>

  </div>

</div>

</nav>

</section>

```

```

<!-- Banner -->

<!-- Banner -->

<section id="banner">

  <div class="container-fluid" id="banner-container">

    <div class="row align-items-center" id="banner-row">

      <div class="col-md-6" id="banner-col">

        <h3>BEST PROFESSIONAL WEBSITE DESIGN SOFTWARE DEVELOPMENT COMPANY</h3>

        <p>The fastest way to grow your business with the leader in Technology</p>

        <div class="d-grid gap-2 d-md-flex justify-content-center">

          <a class="btn btn-primary" href="#" role="button">Contact Us</a>

        </div>

      </div>

    </div>

  </div>

```



```

<div class="col-md-6" id="banner-col2">

    

</div>

</div>

</div>

</section>


<!-- Services -->

<section id="service">

    <h1 class="text-center">SERVICES</h1>

    <div class="container-fluid" id="service-container">

        <div class="row" id="service-row">

            <div class="col-md-4" id="service-col1">

                

                <h3>Website Design</h3>

                <p>User Experience Design. Website Content Strategy. Cross Browser and Platform Testing.</p>

            </div>

            <div class="col-md-4" id="service-col2">

                

                <h3>Bulk SMS</h3>

                <p>1. Toll Free Number 2. IVR 3. Virtual Number 4. Political or any Voice Broadcasting</p>

            </div>

            <div class="col-md-4" id="service-col3">

                

                <h3>Payment Gateways</h3>

                <p>PayU India is the flagship company of Naspers group which is a $25 Billion internet and media conglomerate listed on London and Johannesburg stock exchanges respectively.</p>

            </div>

        </div>

    </div>

</div>

```

</section>

<hr />

<!-- About Us -->

<section id="about">

<h1 class="text-center">About Us</h1>

<div class="container-fluid" id="about-container">

<div class="row" id="about-row">

<div class="col-md-6" id="about-col">

<h3>Why Us</h3>

Probuz is all about Delivering High Quality web design and development services, Cost effective and reliable solutions.

SCHOOL/COLLEGE MANAGEMENT SOFTWARE (CAMPUS PRO)

Let us take care of your Business needs. Customer Productivity is our Priority.

</div>

<div class="col-md-6" id="about-col2">

</div>

</div>

</div>

</section>

<hr />

<!-- Products -->

<section id="product">

<h1 class="text-center">Our Products</h1>

<div class="container-fluid" id="product-container">

```
<div class="row" id="product-row">
  <div class="col-md-6" id="product-col1">
    
  </div>
  <div class="col-md-6" id="product-col2">
    <h3>Product List</h3>
    <ul>
      <li>CLINIC MANAGEMENT SYSTEM</li>
      <li>SCHOOL/COLLEGE MANAGEMENT SOFTWARE (CAMPUS PRO)</li>
      <li>SERVICE MANAGEMENT SOFTWARE</li>
      <li>E-COMMERCE WEBSITE</li>
    </ul>
  </div>
</div>
</div>
</section>
```

```
<hr />
```

```
<!-- Social -->
```

```
<section id="social">
```

```
<h1 class="text-center">Get In Touch</h1>
```

```
<div class="d-grid gap-2 d-md-flex justify-content-center">
```

```
<div class="row align-items-center" id="social-row">
```

```
<div class="col-md-4 social-col">
```

```
<a href="#"></a>
```

```
</div>
```

```
<div class="col-md-4 social-col">
```

```
<a href="#"></a>
```

```
</div>
```

```
<div class="col-md-4 social-col">

  <a href="#"></a>

</div>

</div>

</div>

</section>


<!-- Footer -->

<section id="footer">

  <div class="container-fluid" id="footer-container">

    <div class="row" id="footer-row">

      <div class="col-md-4" id="footer-col1">

        <h3>My Website</h3>

        <p>At XYZ we believe that customers should always get easy-to-use, best-in-class, and fast
services. XYZ has achieved standards which help customers achieve satisfaction and realize value for
their hard-earned money.</p>

      </div>

      <div class="col-md-4" id="footer-col2">

        <h3>Contact Us</h3>

        <p>Call Us: 1800-121-6532</p>

        <p>Email Us: support@xyz.com</p>

      </div>

      <div class="col-md-4" id="footer-col3">

        <h3>Subscribe To Newsletter</h3>

        <form>

          <div class="mb-3">

            <input type="email" placeholder="Enter Your Email" class="form-control"
id="exampleInputEmail1" aria-describedby="emailHelp" />

            <div id="emailHelp" class="form-text">We'll never share your email with anyone else.</div>

          </div>

          <button type="submit" class="btn btn-primary">Submit</button>

        </form>

      </div>

    </div>

  </div>

</section>
```

```
        </form>
    </div>
</div>
</div>
</section>
```

```
<!-- Optional JavaScript; choose one of the two! -->
```

```
<!-- Option 1: Bootstrap Bundle with Popper -->
```

```
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta2/dist/js/bootstrap.bundle.min.js"
integrity="sha384-b5kHyXgcpbZJO/tY9UI7kGkf1S0CWuKcCD38l8YkeH8z8QjE0GmW1gYU5S9FOnJ0"
crossorigin="anonymous"></script>
```

```
</body>
```

```
</html>
```

CSS:

```
{
margin: 0;
padding: 0;
font-family: 'Roboto Condensed', sans-serif;
}
```

```
/* Navbar */
```

```
.navbar {
background-color: #0a193d;
}
```

```
.navbar-nav {
margin-right: 0 !important;
padding-right: 100px;
}
```

```
.navbar-nav .nav-item a {
```

```
color: white !important;
}
```

```
.navbar-brand {
color: white !important;
padding-left: 100px;
}
```

```
.navbar-toggler {
color: white !important;
}
```

```
/* Banner */
#banner-container {
background-color: #0a193d;
color: white !important;
padding: 80px 0;
}
```

```
#banner-row img {
max-width: 70%;
height: auto;
display: block;
padding-left: 30px;
}
```

```
#banner-row h3, p {
padding-left: 20px;
padding-top: 20px;
text-align: center;
}
```

```
#banner-row a {  
background-color: white !important;  
color: black !important;  
border: none;  
margin: 20px;  
}
```

```
#banner-col {  
padding-left: 20px;  
}
```

```
/* Services */  
#service {  
padding: 80px 0;  
}
```

```
#service h1 {  
padding-bottom: 70px;  
}
```

```
/* About Us */  
#about {  
padding: 80px 0;  
}
```

```
#about h1 {  
padding-bottom: 70px;  
}
```

```
#about-col ul {
```

```
padding: 50px;  
}
```

```
#about-col ul li {  
padding-top: 15px;  
}
```

```
/* Products */  
  
#product {<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css"  
rel="stylesheet" integrity="sha384-  
EVSTQN3/azprG1Anm3QDgpJLIm9Nao0Yz1ztcQTwFspd3yD65VohhpuuCOmLASjC"  
crossorigin="anonymous">  
padding: 80px 0;  
}
```

```
#product h1 {  
padding-bottom: 70px;  
}
```

```
#product-col2 ul {  
padding-top: 90px;  
}
```

```
#product-col2 ul li {  
padding-top: 15px;  
}
```

```
/* Social */  
  
#social {  
padding: 80px 0;  
}
```



```
#social h1 {  
padding-bottom: 70px;  
}
```

```
.social-col a:hover img {  
transform: translateY(-10px);  
}
```

```
#social-row {  
flex-direction: row;  
}
```

```
/* Footer */  
#footer-container {  
padding: 80px 0;  
}
```

```
#footer-col1, #footer-col2, #footer-col3 {  
padding: 20px;  
}
```

```
.mb-3 {  
padding-top: 10px;  
}
```

```
/* Media Queries */  
@media only screen and (max-width: 987px) {  
  .navbar-brand {  
padding-left: 0;  
}  
}
```

```
@media only screen and (max-width: 768px) {  
  
#banner-row img {  
  
padding-top: 20px;  
  
}
```

```
.social-col {  
  
width: 33%;  
  
}  
  
}
```

4)Develop web page using java script

HTML:

```
<!DOCTYPE html>  
  
<html lang="en">  
  
<head>  
  
<meta charset="UTF-8">  
  
<meta name="viewport" content="width=device-width, initial-scale=1.0">  
  
<title>Analog Clock</title>  
  
<link rel="stylesheet" href="clock.css">  
  
</head>  
  
<body>  
  
<div class="clock">  
  
<div class="clock-face">  
  
<div class="number number1">1</div>  
  
<div class="number number2">2</div>  
  
<div class="number number3">3</div>  
  
<div class="number number4">4</div>  
  
<div class="number number5">5</div>  
  
<div class="number number6">6</div>
```

```
<div class="number number7">7</div>
<div class="number number8">8</div>
<div class="number number9">9</div>
<div class="number number10">10</div>
<div class="number number11">11</div>
<div class="number number12">12</div>
<div class="hand hour-hand"></div>
<div class="hand minute-hand"></div>
<div class="hand second-hand"></div>
</div>
</div>
<script src="clock.js"></script>
</body>
</html>
```

CSS:

```
body {
display: flex;
justify-content: center;
align-items: center;
height: 100vh;
background: #f0f0f0;
margin: 0;
}
.clock {
width: 300px;
height: 300px;
border: 50px solid black;
border-radius: 50%;
position: relative;
padding: 20px;
```

```
box-shadow: 0 0 20px rgba(0, 0, 0, 0.2);

background: white;
}

.clock-face {
position: relative;
width: 100%;
height: 100%;
transform: translateY(-3px); /* Fix for the hands positioning */
}

.hand {
width: 50%;
background: black;
position: absolute;
top: 50%;
transform-origin: 100%;
transform: rotate(90deg);
transition: all 0.05s;
transition-timing-function: cubic-bezier(0.1, 2.7, 0.58, 1);
}

.hour-hand {
height: 10px;
width: 30%;
left: 20%;
}

.minute-hand {
height: 4px;
}

.second-hand {
height: 2px;
background: red;
}
```

```
.number {  
position: absolute;  
font-size: 24px;  
transform: translate(-50%, -50%);  
}  
  
.number1 { top: 17%; left: 70%; }  
.number2 { top: 30%; left: 85%; }  
.number3 { top: 50%; left: 90%; }  
.number4 { top: 70%; left: 85%; }  
.number5 { top: 83%; left: 70%; }  
.number6 { top: 90%; left: 50%; }  
.number7 { top: 83%; left: 30%; }  
.number8 { top: 70%; left: 15%; }  
.number9 { top: 50%; left: 10%; }  
.number10 { top: 30%; left: 15%; }  
.number11 { top: 17%; left: 30%; }  
.number12 { top: 10%; left: 50%; }
```

JS Code:

```
// script.js  
  
const hourHand = document.querySelector('.hour-hand');  
const minuteHand = document.querySelector('.minute-hand');  
const secondHand = document.querySelector('.second-hand');  
  
function setDate() {  
const now = new Date();  
  
const seconds = now.getSeconds();  
  
const secondsDegrees = ((seconds / 60) * 360) + 90;  
secondHand.style.transform = `rotate(${secondsDegrees}deg)`;  
  
const minutes = now.getMinutes();  
  
const minutesDegrees = ((minutes / 60) * 360) + ((seconds / 60) * 6) + 90;  
minuteHand.style.transform = `rotate(${minutesDegrees}deg)`;  
  
const hours = now.getHours();
```

```
const hoursDegrees = ((hours / 12) * 360) + ((minutes / 60) * 30) + 90;
hourHand.style.transform = `rotate(${hoursDegrees}deg)`;
}
setInterval(setDate, 1000);
setDate();
```

5)Construct front end applications using React and back end using

Node.js/express

To set up a full-stack application using React for the front end and Node.js with Express for the back end on Ubuntu, follow these steps:

```
###
Prerequisites#####
#
```

1. **Node.js and npm**: Make sure you have Node.js and npm installed. You can install them using the following commands:

```
sudo apt update
sudo apt install nodejs npm
```

2. **Check installations**:

```
node -v
npm -v
```

3. **Install `np`** (included with npm 5.2 and higher):

```
sudo npm install -g npx
```

Step 1: Set Up Your Project Structure

1. **Create a folder for your project**:

```
mkdir my-fullstack-app
```

```
cd my-fullstack-app
```

2. **Create two subfolders**: `client` for the React app and `server` for the Node.js back end:

```
mkdir client server
```

Step 2: Set Up the Back End with Node.js and Express

1. **Navigate to the `server` folder**:

```
cd server
```

2. **Initialize a new Node.js project**:

```
npm init -y
```

3. **Install the required packages**:

```
npm install express cors body-parser
```

4. **Create the main server file** (e.g., `server.js`):

```
touch server.js
```

5. **Open `server.js` in a text editor and add the following code**:

```
*****server.js*****
*****

// server/server.js

const express = require('express');
const cors = require('cors');
const bodyParser = require('body-parser');

const app = express();
const PORT = process.env.PORT || 5000;

// Middleware
app.use(cors());
app.use(bodyParser.json());

// Sample route
app.get('/api/data', (req, res) => {
  res.json({ message: 'Hello from the server!' });
});
```



```
app.listen(PORT, () => {  
  console.log(`Server is running on http://localhost:${PORT}`);  
});
```

```
*****server.js*****  
*****
```

Step 3: Set Up the Front End with React

1. ****Navigate back to the `my-fullstack-app` directory**:**

```
cd ..
```

2. ****Navigate to the `client` folder** and create a new React app using Create React App:**

```
cd client  
npx create-react-app .
```

3. ****Install Axios for making HTTP requests**:**

```
npm install axios
```

4. ****Modify `src/App.js` to fetch data from the back end**:**

Open `src/App.js` in a text editor and replace its contents with:

```
*****App
.js*****

// client/src/App.js

import React, { useEffect, useState } from 'react';
import axios from 'axios';

const App = () => {
  const [data, setData] = useState(null);

  useEffect(() => {
    const fetchData = async () => {
      try {
        const response = await axios.get('http://localhost:5000/api/data');
        setData(response.data.message);
      } catch (error) {
        console.error('Error fetching data:', error);
      }
    };
    fetchData();
  }, []);

  return (
    <div style={{ textAlign: 'center', marginTop: '50px' }}>
      <h1>React and Node.js Example</h1>
      {data ? <p>{data}</p> : <p>Loading...</p>}
    </div>
  );
};
```

```
export default App;
```

```
*****App  
.js*****
```

Step 4: Run the Applications

1. ****Start the back-end server****:

```
node server.js
```

2. ****Open another terminal and navigate to the `client` folder****. Then start the React app:

```
cd client
```

```
npm start
```

Step 5: Access Your Application

- Open your web browser and go to `http://localhost:3000` to see your React application. It should display "Hello from the server!" fetched from your Node.js back end.