OSTL LAB

Week 7 Assignment Submission

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Batch B1

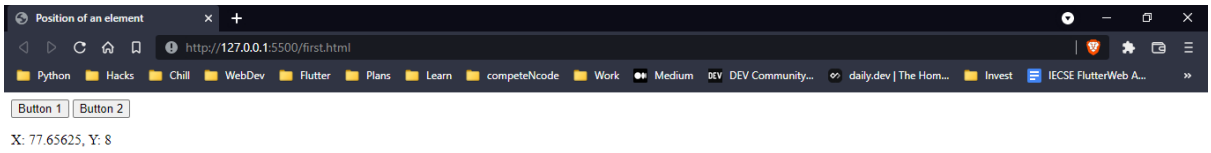
10

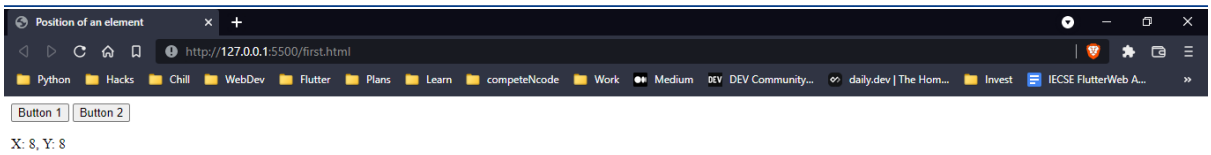
Q1) Create an HTML5 document to get an HTML5 element's position on the web page with the help of CSS and JavaScript function.

Code:

```
<!DOCTYPE html>
<html>
  <head>
    <title>Position of an element</title>
  </head>
  <body>
    <button id="b1" onclick="getPosxy(this)">Button 1</button>
    <button id="b2" onclick="getPosxy(this)">Button 2</button>
    <p id="posn"></p>

    <script type="text/javascript">
      function getPosxy(element) {
        var rect = element.getBoundingClientRect();
        document.getElementById("posn").innerHTML =
          "X: " + rect.x + ", " + "Y: " + rect.y;
      }
    </script>
  </body>
</html>
```

Output:





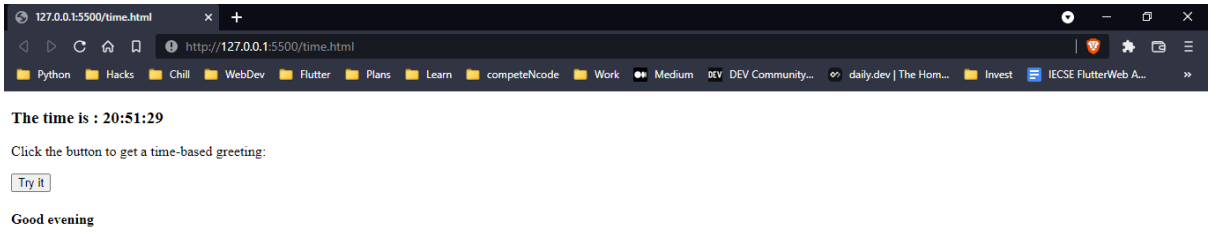
Q2) Write a javascript program to “Wish a user”at different hours of a day. Use appropriate dialog boxes for wishing the user. Display the dynamic clock on the web page. Make use of CSS HTML5 elements for creative and attractive designs.

Code:

```
<!DOCTYPE html>
<html>
 <head>
  <script>
   function startTime() {
    var today = new Date();
    var h = today.getHours();
    var m = today.getMinutes();
    var s = today.getSeconds();
    m = checkTime(m);
    s = checkTime(s);
    document.getElementById("txt").innerHTML =
     "The time is : " + h + ":" + m + ":" + s;
    var t = setTimeout(startTime, 500);
   }

   function checkTime(i) {
    if (i < 10) {
     i = "0" + i;
    } // add zero in front of numbers < 10
    return i;
   }
  </script>
 </head>

 <body onload="startTime()">
  <h3 id="txt"></h3>
  <p>Click the button to get a time-based greeting:</p>
  <button onclick="myFunction()">Try it</button>
```

```
    <h4 id="demo"></h4>
    <script>
      function myFunction() {
        var greeting;
        var time = new Date().getHours();

        if (time < 10) {
          greeting = "Good morning";
        } else if (time < 20) {
          greeting = "Good day";
        } else {
          greeting = "Good evening";
        }

        document.getElementById("demo").innerHTML = greeting;
      }
    </script>
  </body>
</html>
```

Output:



Q3) Create an animation of rain using HTML5 canvas element. Apply appropriate usage of CSS and javascript function to develop the animation.

Code:

“rain.html”

```
<!DOCTYPE HTML>
<html>

<head>

<link rel="stylesheet" type="text/css" href="myStyle.css">
<meta charset="UTF-8">
<title>Canvas Rain Effect</title>
<style type="text/css">
body
{
  margin: 0;
```

```
  overflow: hidden;
  background: #061928;
}
</style>

<body data-rsssl=1>

<canvas id="canvas"></canvas>

    <script src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.3/jquery.min.js"></script>
    <script type="text/javascript">

$(document).ready(function()
{
  var canvas = $('#canvas')[0];
  canvas.width = window.innerWidth;
  canvas.height = window.innerHeight;

  if (canvas.getContext)
  {
    var ctx = canvas.getContext('2d');
    var w = canvas.width;
    var h = canvas.height;
    ctx.strokeStyle = 'rgba(174,194,224,0.5)';
    ctx.lineWidth = 1.5;
    ctx.lineCap = 'round';

    var init = [];
    var maxParts = 100;
```

```
for (var a = 0; a < maxParts; a++)
{
  init.push({
    x: Math.random() * w,
    y: Math.random() * h,
    l: Math.random() * 1,
    xs: -2 + Math.random() * 13 + 2,
    ys: Math.random() * 10 + 10
  })
}

var particles = [];
for (var b = 0; b < maxParts; b++)
{
  particles[b] = init[b];
}

function draw()
{
  ctx.clearRect(0, 0, w, h);
  for (var c = 0; c < particles.length; c++)
  {
    var p = particles[c];
    ctx.beginPath();
    ctx.moveTo(p.x, p.y);
    ctx.lineTo(p.x + p.l * p.xs, p.y + p.l * p.ys);
    ctx.stroke();
  }
  move();
```

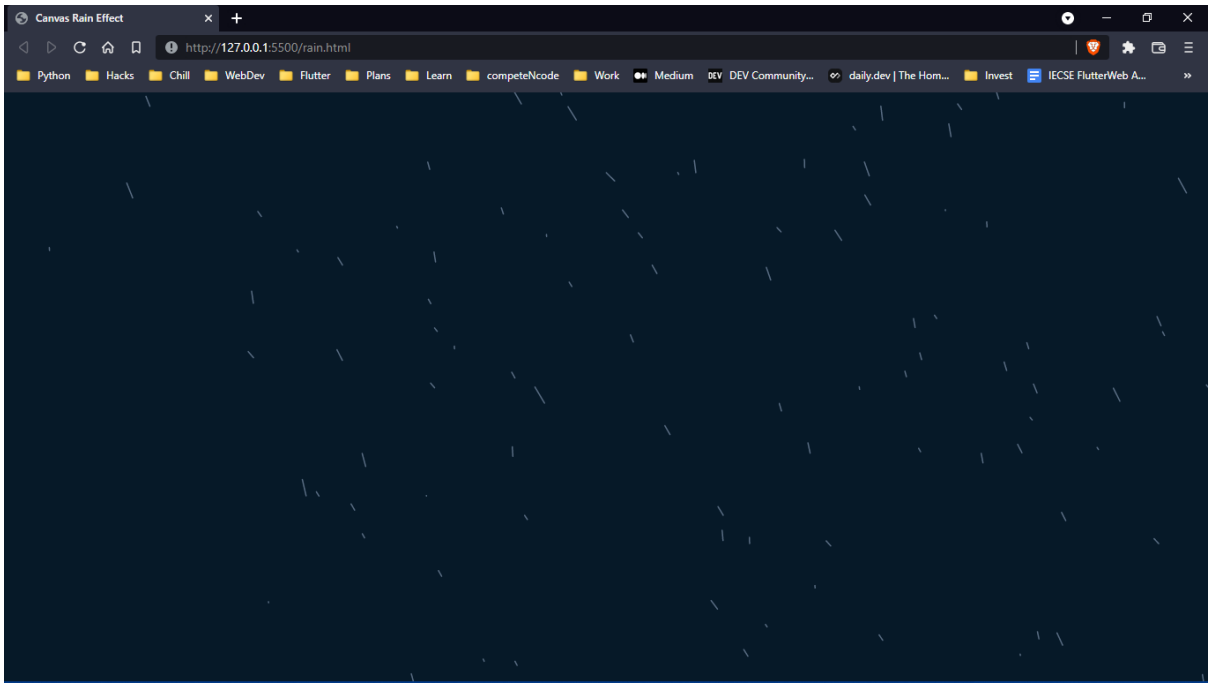
```
    }

    function move()
    {
      for (var b = 0; b < particles.length; b++)
      {
        var p = particles[b];
        p.x += p.xs;
        p.y += p.ys;
        if (p.x > w || p.y > h)
        {
          p.x = Math.random() * w;
          p.y = -20;
        }
      }
    }

    setInterval(draw, 30);

  }
});
    </script>
</body>
</html>
```

“myStyle.css”

```
/* myStyle.css */
body {
    background-color: #00008b;
    color: #FFFFFF;
```

```
}

h1 {
    color: #FFFF13;
    text-align: center;
    font: italic 200% fantasy;
}

p {
    background-color: #FFFF13;
    color: #333300;
    text-align: center;
    border: 3px groove #FFFF33;
}
```

Output:



Q4) Create an HTML5 document that display a bouncing ball. Use HTML5 elements, CSS and JavaScript functions.

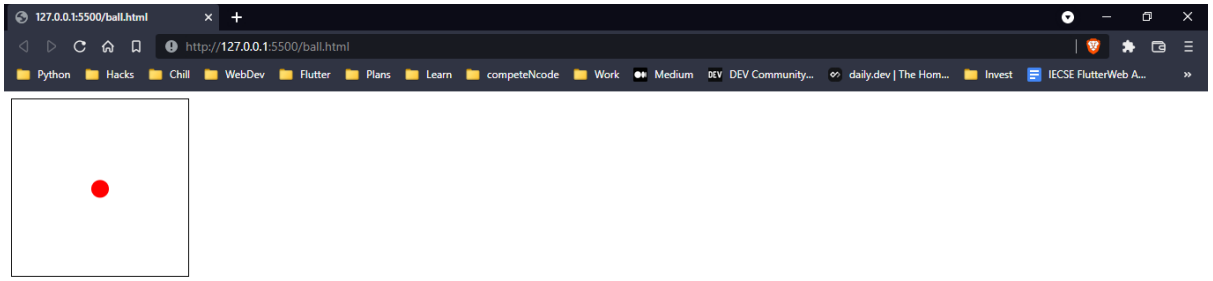
Code:

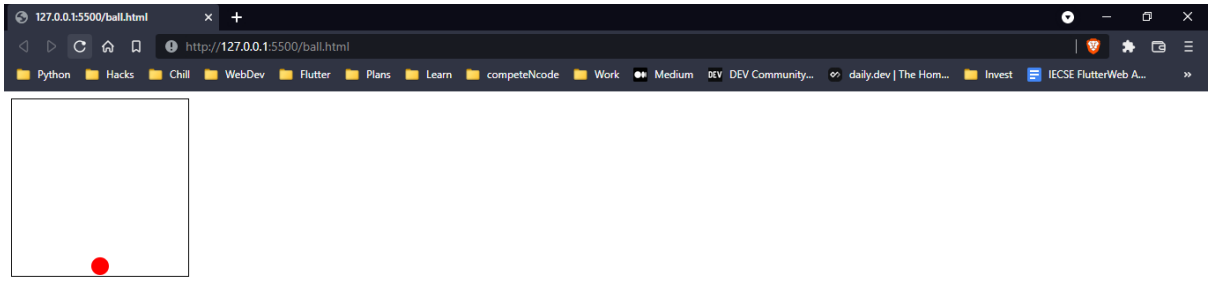
```
<html>
 <head>
  <script>
   var height = 200,
    width = 200,
    canvas,
    ctx,
    interval,
    h = height,
    a = 0.1,
    v = 0,
    ballAbsorption = 0.9,
    ballSize = 20,
    ballRadius = ballSize / 2,
    frameRate = 20;
   function drawBall() {
    if (h <= 0 && v > 0) {
     console.log("bong");
     v *= -1 * ballAbsorption; // bounding with less velocity

     if (v > -0.1 && v < 0.1) {
      clearInterval(interval);
      interval = null;
      console.log("stop");
```

```
    }
  }

  // Move the ball
  v += a; // accelerating
  h -= v; // falling (if v < 0)

  // drawing ball
  ctx.clearRect(0, 0, height, width);
  ctx.fillStyle = "red";
  ctx.beginPath();
  ctx.arc(
    width / 2,
    height - h - ballRadius,
    ballRadius,
    0,
    Math.PI * 2,
    true
  );
  ctx.fill();
}
window.onload = function () {
  canvas = document.getElementById("c");
  canvas.height = height;
  canvas.width = width;
  ctx = canvas.getContext("2d");
  interval = setInterval(drawBall, frameRate);
  canvas.addEventListener("click", function () {
    h = height;
```

```
        v = 0;
        if (!interval) {
          interval = setInterval(drawBall, frameRate);
        }
       });
     };
   </script>
   <style>
     #c {
       border: 1px solid black;
     }
   </style>
  </head>
  <body>
    <canvas id="c"> Your antique browser does not support canvas... </canvas>
  </body>
</html>
```

Output:





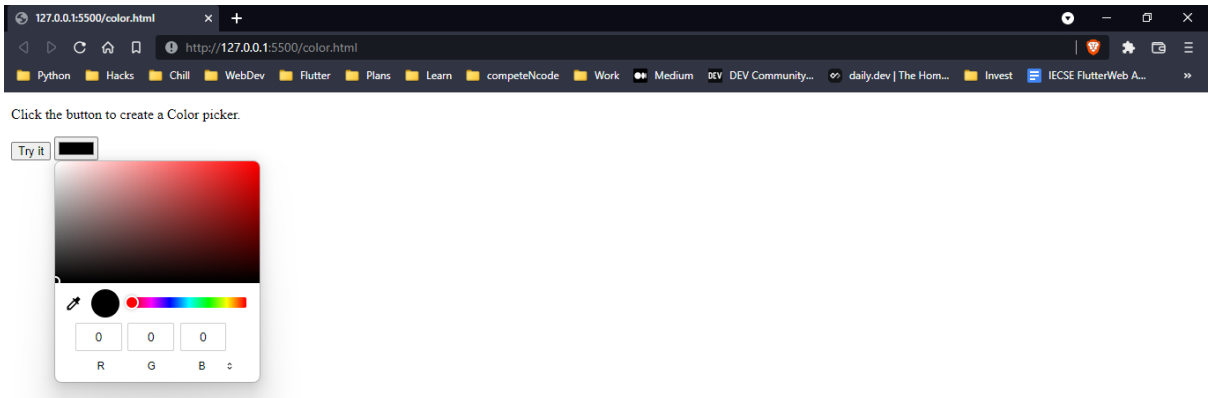
Q5) Develop a color picker using HTML5 elements, CSS and JavaScript functions.

Code:

```
<!DOCTYPE html>

<html>

 <body>

   <p>Click the button to create a Color picker.</p>
```

```
  <button onclick="myFunction()">Try it</button>

  <script>
    function myFunction() {
      var x = document.createElement("INPUT");
      x.setAttribute("type", "color");
      document.body.appendChild(x);
    }
  </script>
 </body>
</html>
```

Output:



THANK YOU!