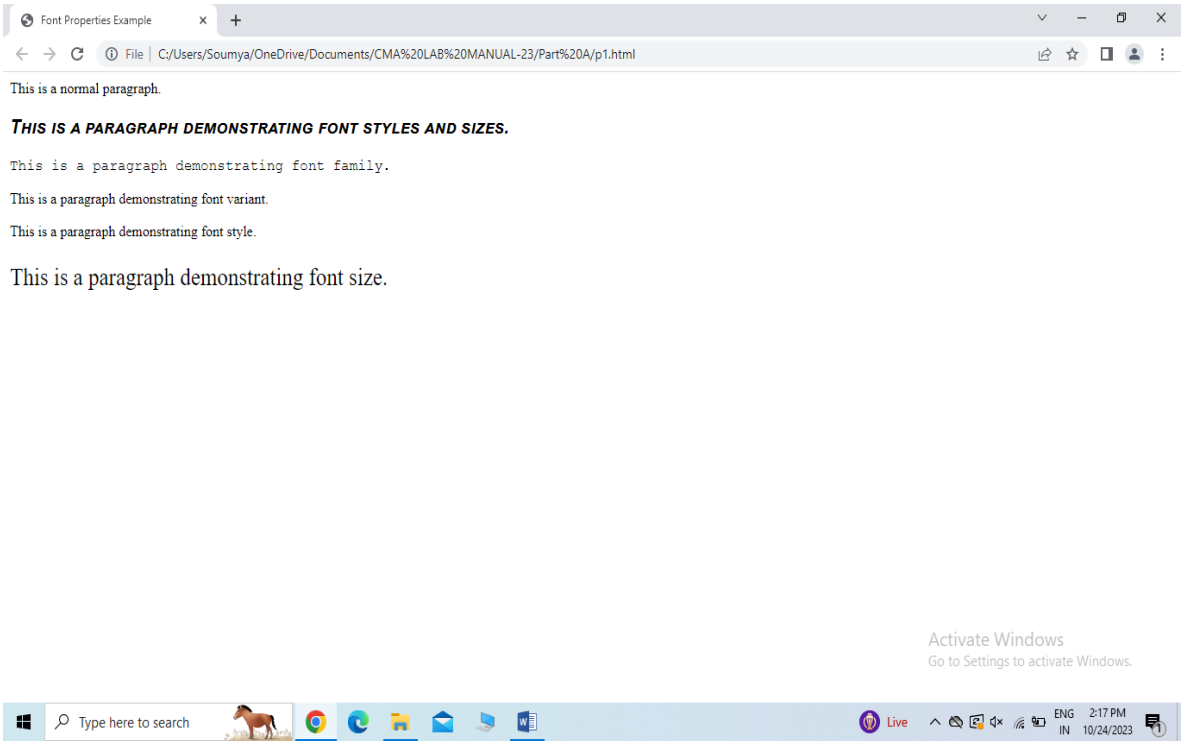
Computer Multimedia & Animation Lab Manual

PART-A

1. Write a HTML/5 program to demonstrate the use of Font family, font variant, font style, and font size.

```
<html>
<head>
<title> Font Properties Example</title>
<style>
.font
{
font-family:Arial,sans-serif;
font-size:20px;
font-weight:bold;
font-style:italic;
font-variant:small-caps;
}
</style>
</head>
<body>
<p> This is a normal paragraph.</p>
<p class="font"> This is a paragraph demonstrating font styles and sizes.</p>
<p style="font-family:Courier"> This is a paragraph demonstrating font family.</p>
<p style="font-variant:normal"> This is a paragraph demonstrating font variant.</p>
<p style="font-style:normal"> This is a paragraph demonstrating font style.</p>
<p style="font-size:25px"> This is a paragraph demonstrating font size.</p>
</body>
</html>
```

OUTPUT:



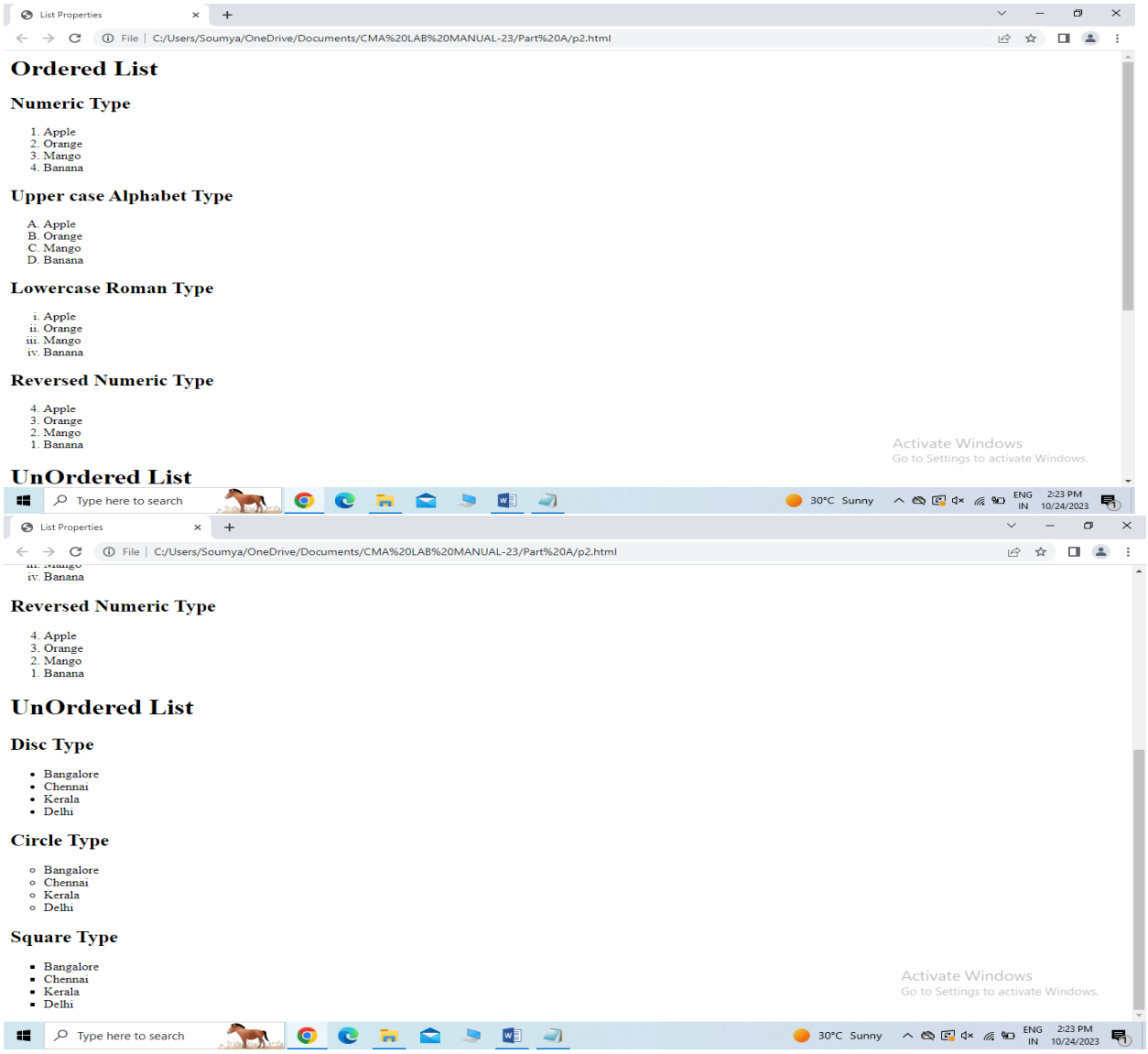
2. Write a HTML/5 program to display random contents using list properties:

a) Ordered list b) Unordered list.

```
<html>
<head>
<title> List Properties</title>
</head>
<body>
<h1>Ordered List</h1>
<h2> Numeric Type</h2>
<ol type="1">
<li>Apple</li>
<li>Orange</li>
<li>Mango</li>
<li>Banana</li>
</ol>
<h2> Upper case Alphabet Type</h2>
<ol type="A">
<li>Apple</li>
<li>Orange</li>
<li>Mango</li>
```

```
<li>Banana</li>
</ol>
<h2> Lowercase Roman Type</h2>
<ol type="i">
<li>Apple</li>
<li>Orange</li>
<li>Mango</li>
<li>Banana</li>
</ol>
<h2> Reversed Numeric Type</h2>
<ol reversed>
<li>Apple</li>
<li>Orange</li>
<li>Mango</li>
<li>Banana</li>
</ol>
<h1>UnOrdered List</h1>
<h2>Disc Type</h2>
<ul type="disc">
<li>Bangalore</li>
<li>Chennai</li>
<li>Kerala</li>
<li>Delhi</li>
</ul>

<h2>Circle Type</h2>
<ul type="circle">
<li>Bangalore</li>
<li>Chennai</li>
<li>Kerala</li>
<li>Delhi</li>
</ul>

<h2>Square Type</h2>
<ul type="square">
<li>Bangalore</li>
<li>Chennai</li>
<li>Kerala</li>
<li>Delhi</li>
</ul>
</body>
</html>
```

OUTPUT:-

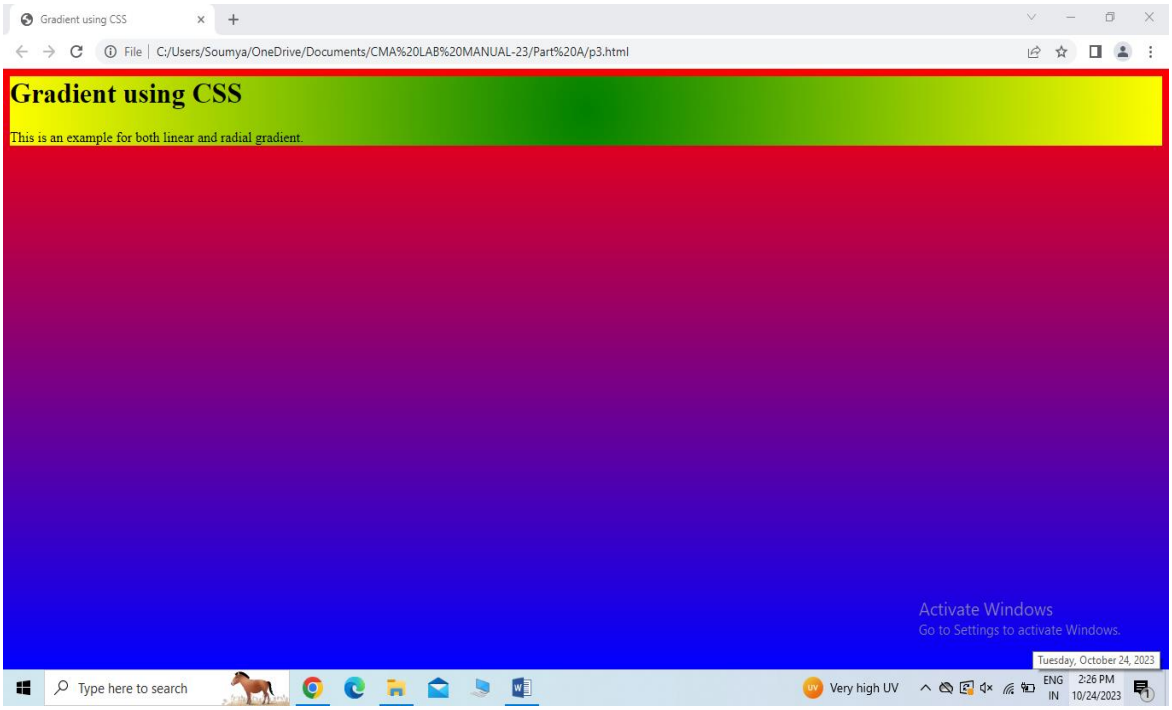


3. Write a HTML/5 program to create gradient using CSS.

```
<html>
<head>
<title> Gradient using CSS</title>
<style>
body{
        background:linear-gradient(to bottom, red, blue);
}
.box{background:radial-gradient(circle, green, yellow);
</style>
</head>
<body>
```

```
<div class="box">
<h1> Gradient using CSS </h1>
<p> This is an example for both linear and radial gradient.</p>
</div>
</body>
</html>
```

OUTPUT:-

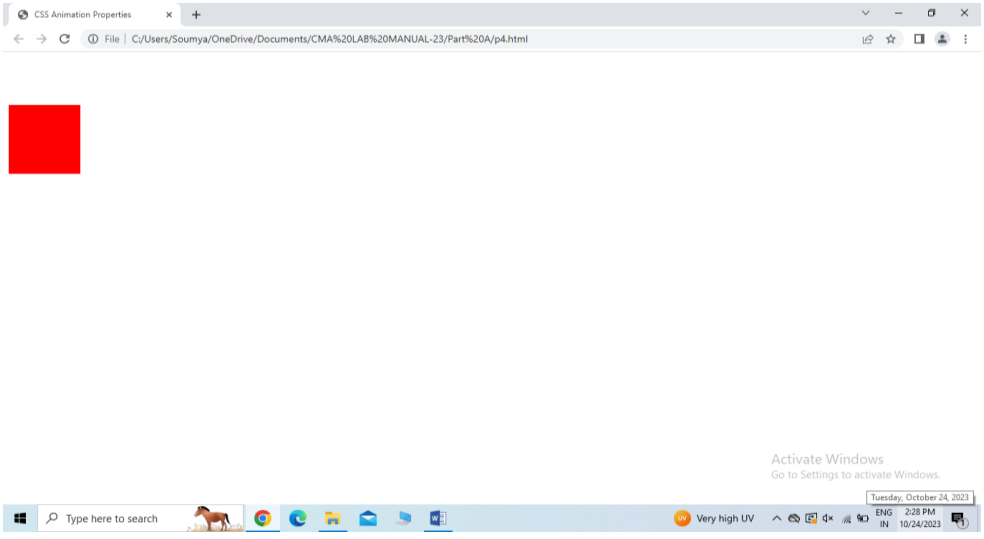


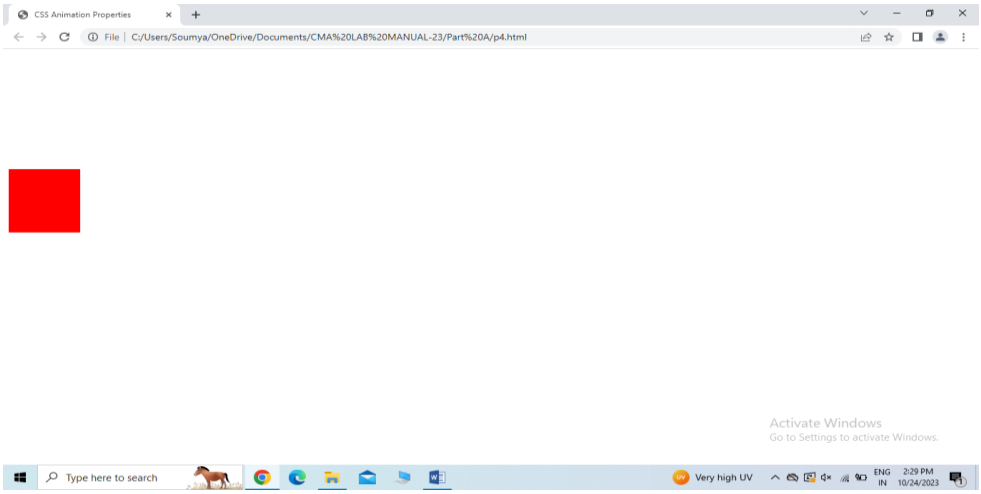
4. Write a HTML/5 program to demonstrate following CSS animation properties:
a) Delay b) Direction c) Duration

```
<html>
<head>
<title>CSS Animation Properties</title>
<style>
.box {
        width:100px;
        height:100px;
        background-color:red;
```

```
        position:relative;
        animation-name:move;
        animation-duration:2s;
        animation-direction:alternative;
        animation-delay:1s;
        animation-iteration-count:infinite;
         }
@keyframes move
 {
        0%       { top:0;}
        100%    {top:200px;}
 }
</style>
</head>
<body>
<div class="box"></div>
</body>
</html>
```

OUTPUT:-

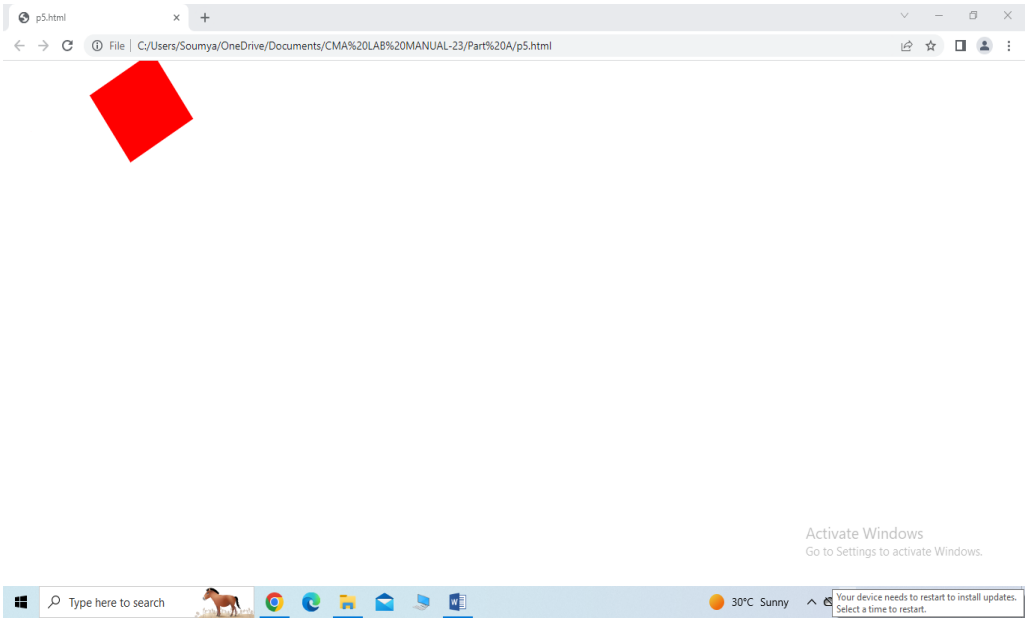




5. Write a HTML/5 program to demonstrate key frames.

```
<html>
<head>
<style>
.box {
  width: 100px;
  height: 100px;
  background: red;
  position: relative;
  animation: move 3s infinite;
}

@keyframes move {
  0%   { left: 0px;}

  50%  {left:200px; transform:rotate(90deg);}

  100% {left: 0px; }
}
</style>
</head>
<body>
<div class="box"></div>
</body>
</html>
```

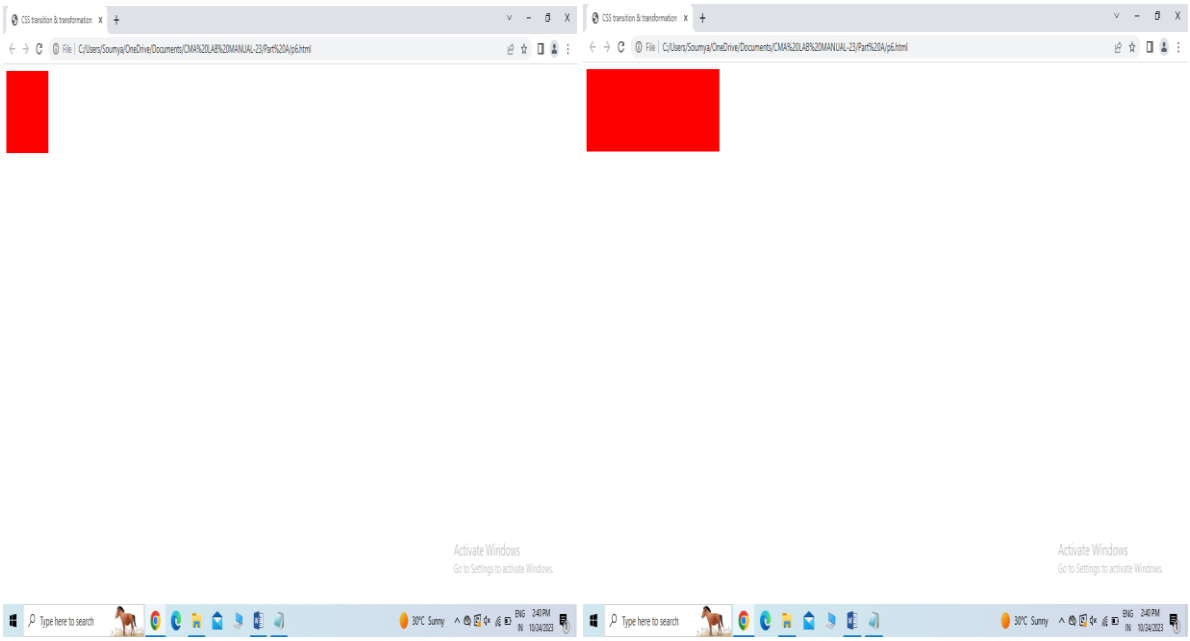
OUTPUT:-



6. Write a HTML/5 program to demonstrate CSS transition and transformation.

```
<html>
<head>
<title>CSS transition & transformation</title>
<style>
.box {
  width: 100px;
  height: 100px;
  background: red;
  position: relative;
  transition:width 2s;
  }

.box:hover {
 width:300px;

</style>
</head>
<body>

<div class="box"></div>

</body>
</html>
```

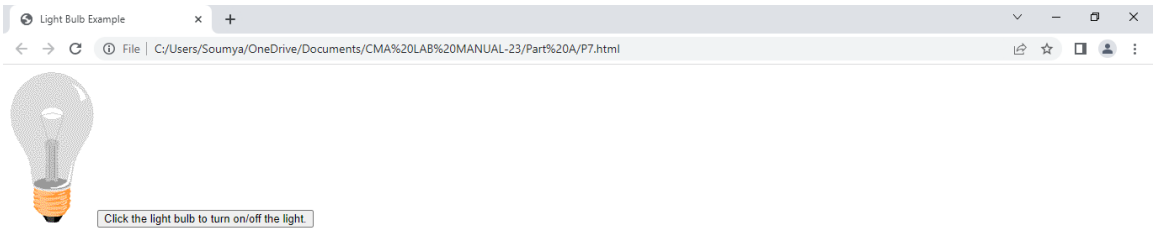
OUTPUT:-

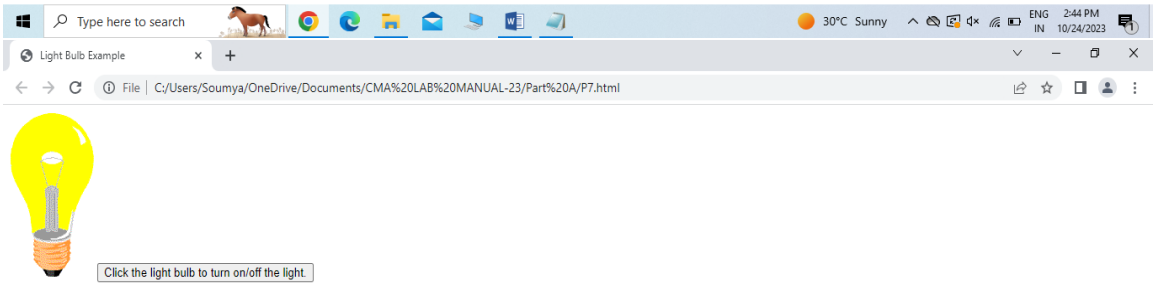


7. Write a HTML /5 program to turn on/off a light bulb using javascript. Make use of .gif image and buttons.

```
<html>
<head>
<title> Light Bulb Example</title>
</head>
<body>

<img id="myImage" src="pic_bulboff.gif" width="100" height="180">

<script>
function changeImage() {
  var image = document.getElementById('myImage');
  if (image.src.match("bulbon")) {
    image.src = "pic_bulboff.gif";
  } else {
    image.src = "pic_bulbon.gif";
  }
}
</script>
<button onclick="changeImage()">Click the light bulb to turn on/off the light.</button>
</body>
</html>
```

OUTPUT:-



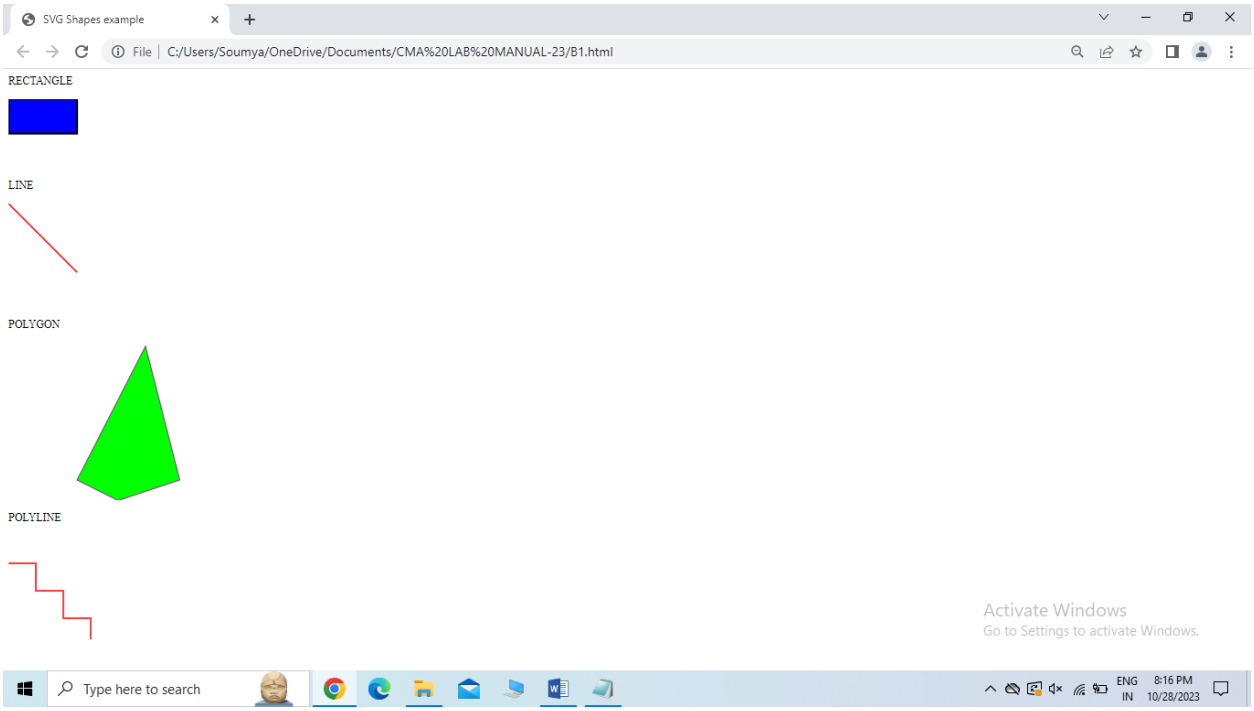


PART-B

1. Write a HTML/5 program to draw rectangle, line , polygon, polyline using SVG.

```
<html>
<head>
<title>SVG Shapes example</title>
</head>
<body>
<p>RECTANGLE</p>
<svg width="200" height="100">
<rect width="100" height="50" style="fill:rgb(0,0,255);stroke-width:3;stroke:rgb(0,0,0)"/>
</svg>
<p>LINE</p>
<svg>
<line x1 ="0" y1 ="0" x2="100" y2="100" style="stroke:rgb(255,0,0);stroke-width:2"/>
</svg>
<p>POLYGON</p>
<svg height="230" width="300">
<polygon points="200,5 250,200 160,230 100,200" style="fill:lime;stroke:purple;stroke-width:1" />
</svg>
<p>POLYLINE</p>
<svg>
<polyline points="0,40 40,40 40,80 80,80 80,120 120,120 120,160" style="fill:white;stroke:red;stroke-width:2"/>
</svg>
</body>
</html>
```

OUTPUT

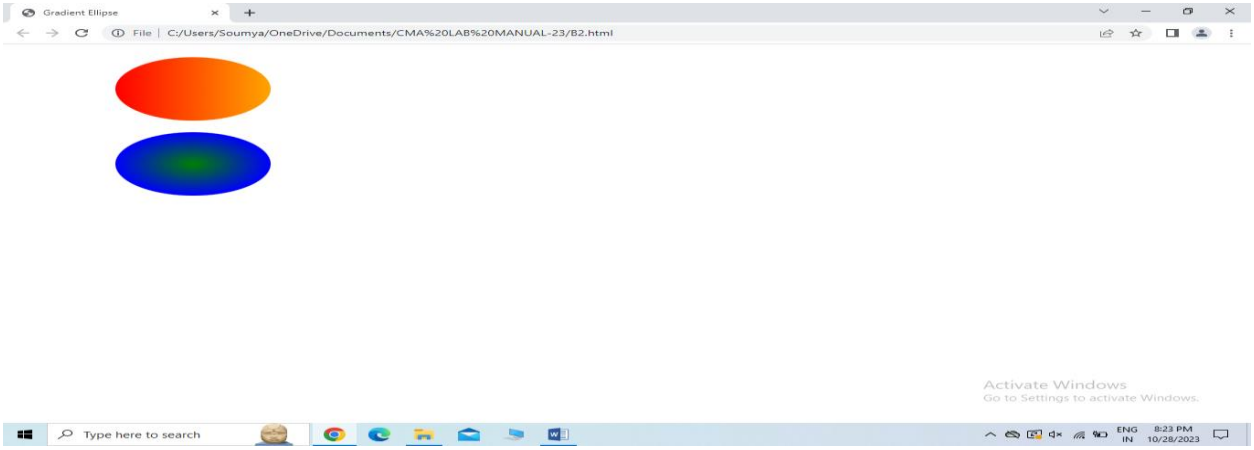


2. Write a HTML/5 program to draw linear and radial gradient ellipse using SVG.

```
<html>
<head>
<title>Gradient Ellipse</title>
</head>
<body>
<svg height="400" width="400">
<defs>
<linearGradient id="grad1">
<stop offset="0%" stop-color="red" />
<stop offset="100%" stop-color="orange" />
</linearGradient>
```

```
<radialGradient id="grad2" cx="50%" cy="50%" r="50%" >
<stop offset="0%" stop-color="green"/>
<stop offset="100%" stop-color="blue"/>
</radialGradient>
</defs>
<ellipse cx="200" cy="70" rx="85" ry="55" fill="url(#grad1)" />
<ellipse cx="200" cy="200" rx="85" ry="55" fill="url(#grad2)" />
</svg>
</body>
</html>
```

OUTPUT



3. Write a HTML/5 program to draw a star using SVG.

```
<html>
<head>
<title>SVG Star</title>
</head>
<body>
<svg height="140" width="400">
```

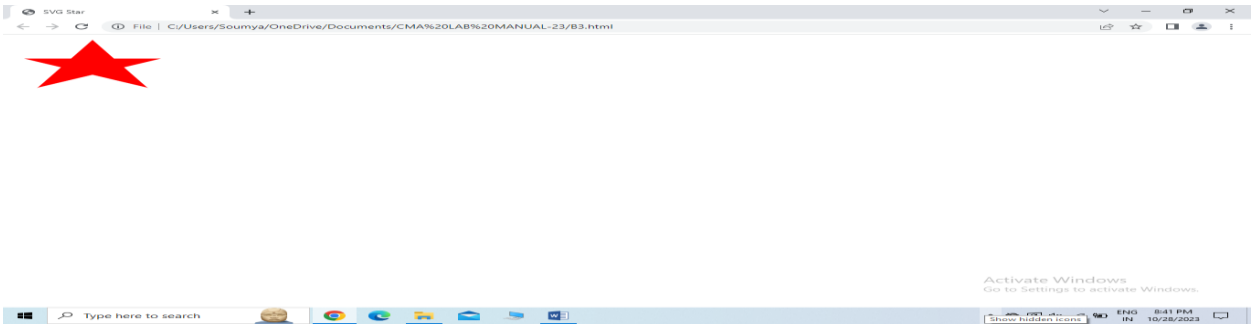
<polygon points="90,5 30,120 165,50 15,50 150,120" fill="red"/>

</svg>

</body>

</html>

OUTPUT



4. Write a HTML/5 program to draw line, circle, rectangle, gradient, text using canvas.

<html>

<head>

<title>Canvas Shapes</title>

</head>

<body>

<canvas id="myCanvas" width="600" height="400" style="border:1px solid grey"></canvas>

<script>

const c = document.getElementById("myCanvas");

const ctx = c.getContext("2d");

//draw line

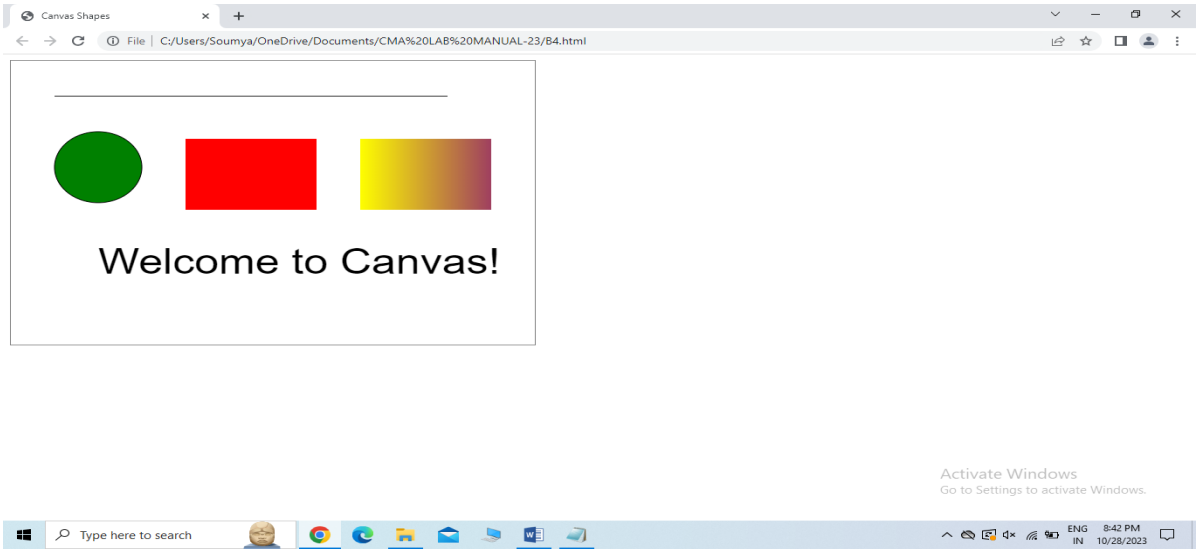
ctx.beginPath();

ctx.moveTo(50,50);

ctx.lineTo(500,50);

```
ctx.stroke();
// draw circle
ctx.beginPath();
ctx.arc(100,150,50,0,Math.PI * 2);
ctx.fillStyle="green";
ctx.fill();
ctx.stroke();
//draw rectangle
ctx.beginPath();
ctx.fillStyle="red";
ctx.fillRect(200, 110, 150, 100);
//gradient
var gr=ctx.createLinearGradient(400,130,600,130);
gr.addColorStop(0,'yellow');
gr.addColorStop(1,'purple');
ctx.fillStyle=gr;
ctx.fillRect(400, 110, 150, 100);
//Text
ctx.font='50px Arial';
ctx.fillStyle='black';
ctx.fillText('Welcome to Canvas!',100,300);
</script>
</body>
</html>
```

OUTPUT

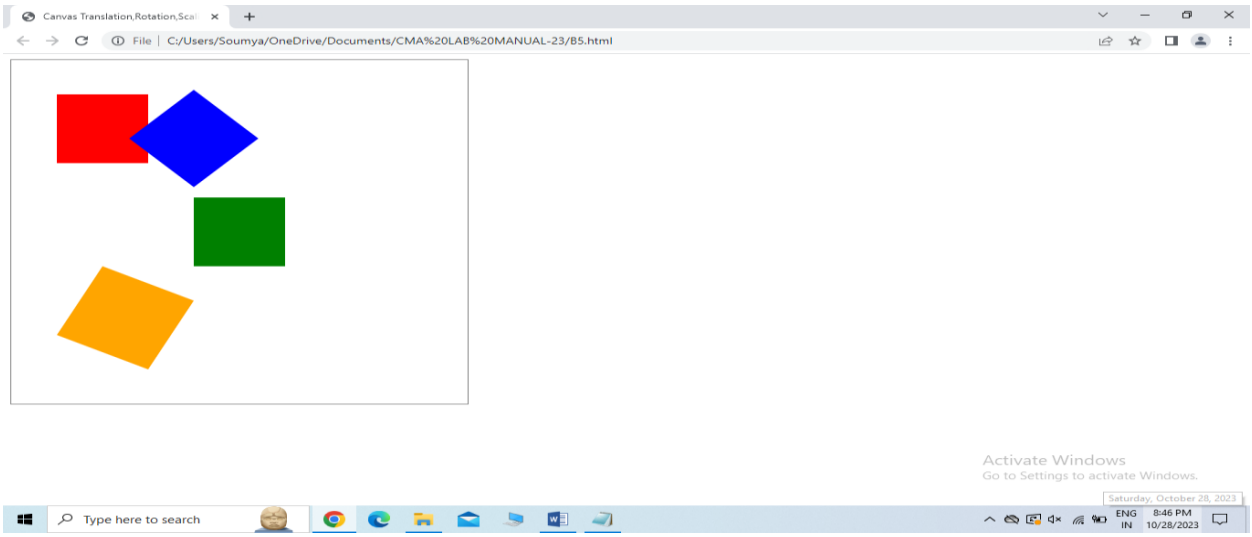


5. Write a HTML/5 program to demonstrate translation, rotation, scaling, and transform using canvas.

```
<html>

<head>

<title>Canvas Translation,Rotation,Scaling and Transform Example</title>

</head>

<body>

<canvas id="myCanvas" width="500" height="500" style="border:1px solid grey"></canvas>

<script>

const c = document.getElementById("myCanvas");

const ctx = c.getContext("2d");

ctx.fillStyle="red";

ctx.fillRect(50,50,100,100);

ctx.translate(200,100);

ctx.rotate(Math.PI/4);

ctx.scale(2,2);

ctx.fillStyle="blue";

ctx.fillRect(-20,-20,50,50);
```

```
ctx.setTransform(1, 0, 0, 1, 0, 0);
ctx.fillStyle = "green";
ctx.fillRect(200,200, 100, 100);
ctx.transform(1, 0.5, -0.5, 1, 0, 0);
ctx.fillStyle = "orange";
ctx.fillRect(200,200, 100, 100);
</script>
</body>
</html>
```

OUTPUT

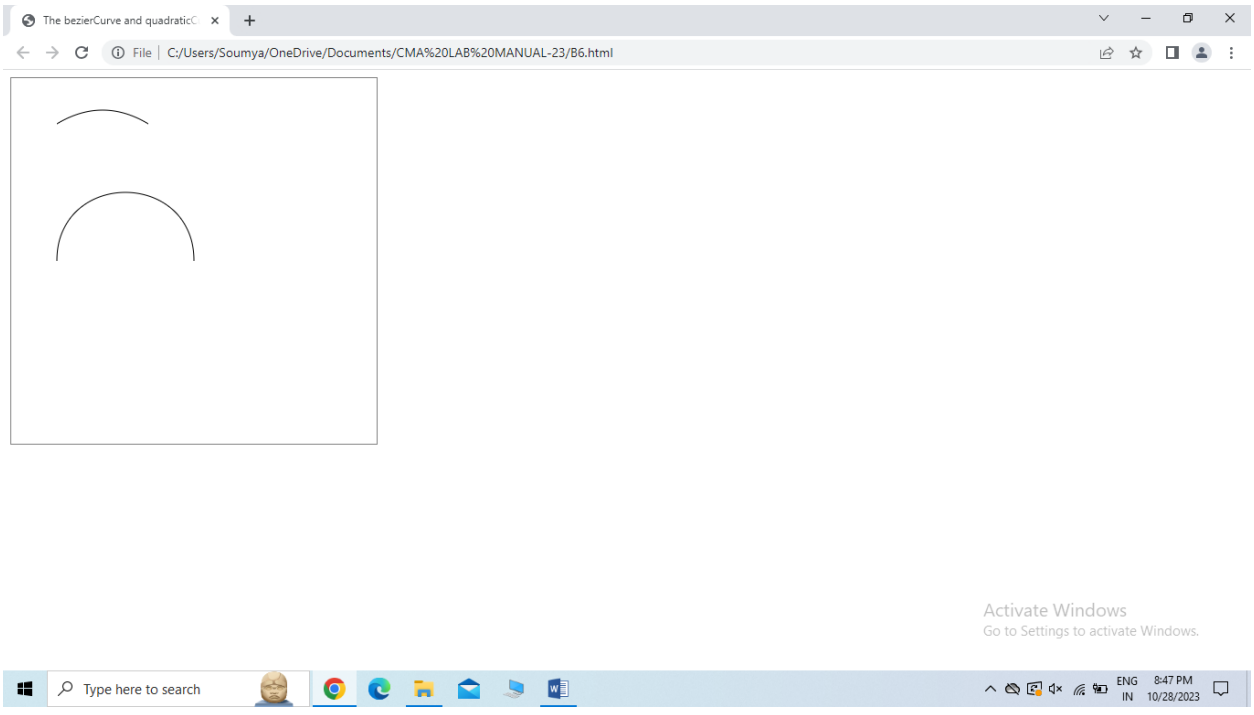


6. Write a HTML/5 program to demonstrate Bezier Curves and Quadratic Curves.

```
<html>
<head>
<title>The bezierCurve and quadraticCurve Example</title>
<head>
<body>
<canvas id="myCanvas" width="400" height="400" style="border:1px solid grey"></canvas>
```

```
<script>
const c = document.getElementById("myCanvas");
const ctx = c.getContext("2d");
ctx.beginPath();
ctx.moveTo(50,200);
ctx.bezierCurveTo(50, 100, 200, 100, 200, 200);
ctx.stroke();
ctx.beginPath();
ctx.moveTo(50, 50);
ctx.quadraticCurveTo(100, 20, 150, 50);
ctx.stroke();
</script>
</body>
</html>
```

OUTPUT

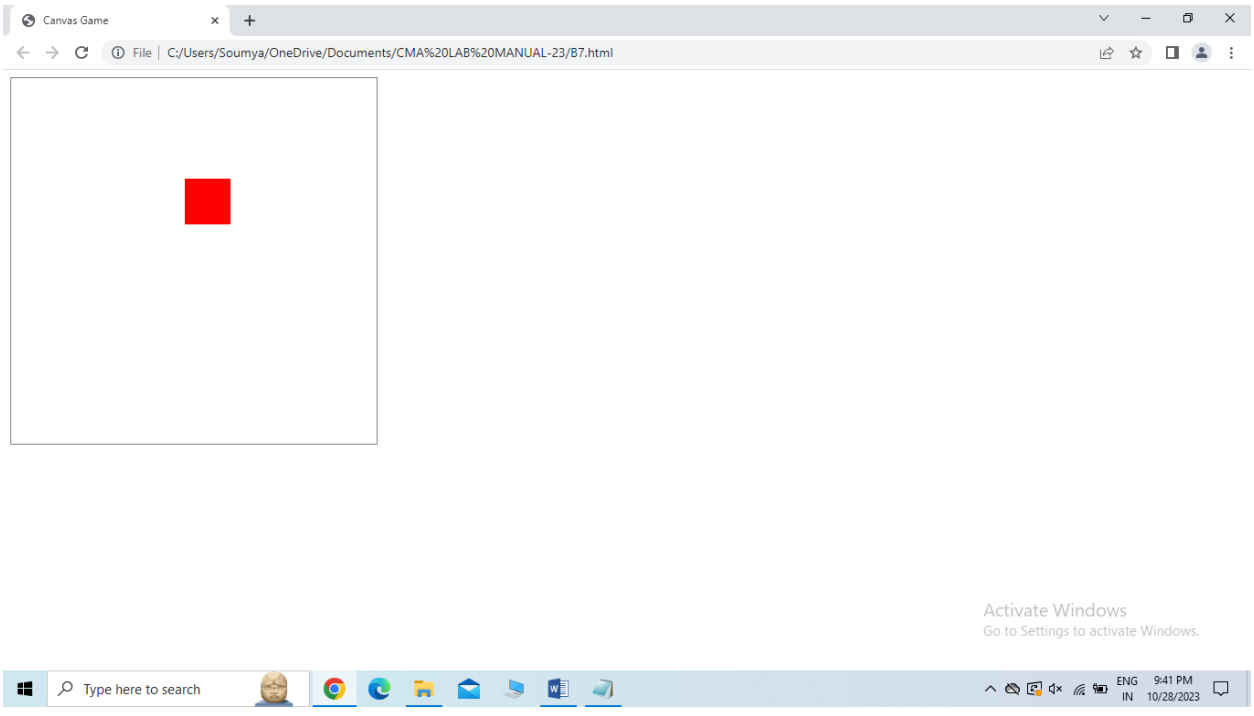


7. Write a HTML/5 program to create canvas add a red square onto the game area with up/down /left/right controller buttons.

```
<html>
<head>
<title>Canvas Game </title>
</head>
<body>
<canvas id="myCanvas" width="400" height="400" style="border:1px solid grey"></canvas>
<script>
var c = document.getElementById("myCanvas");
var ctx = c.getContext("2d");
var squareX=200;
var squareY=200;
var squareS=50;
function drawSquare()
{
 ctx.clearRect(0,0,c.width, c.height);
 ctx.fillStyle="red";
 ctx.fillRect(squareX,squareY,squareS,squareS);
}
function handleKeyDown(event)
{
 var keyCode=event.keyCode;
 switch(keyCode)
{
  case 37: squareX -=10;
        break;
  case 38:squareY -=10;
```

```
        break;
  case 39: squareX +=10;
        break;
  case 40:squareY +=10;
        break;
}
  drawSquare();
}
document.addEventListener("keydown",handleKeyDown);
drawSquare();
</script>
</body>
</html>
```

OUTPUT

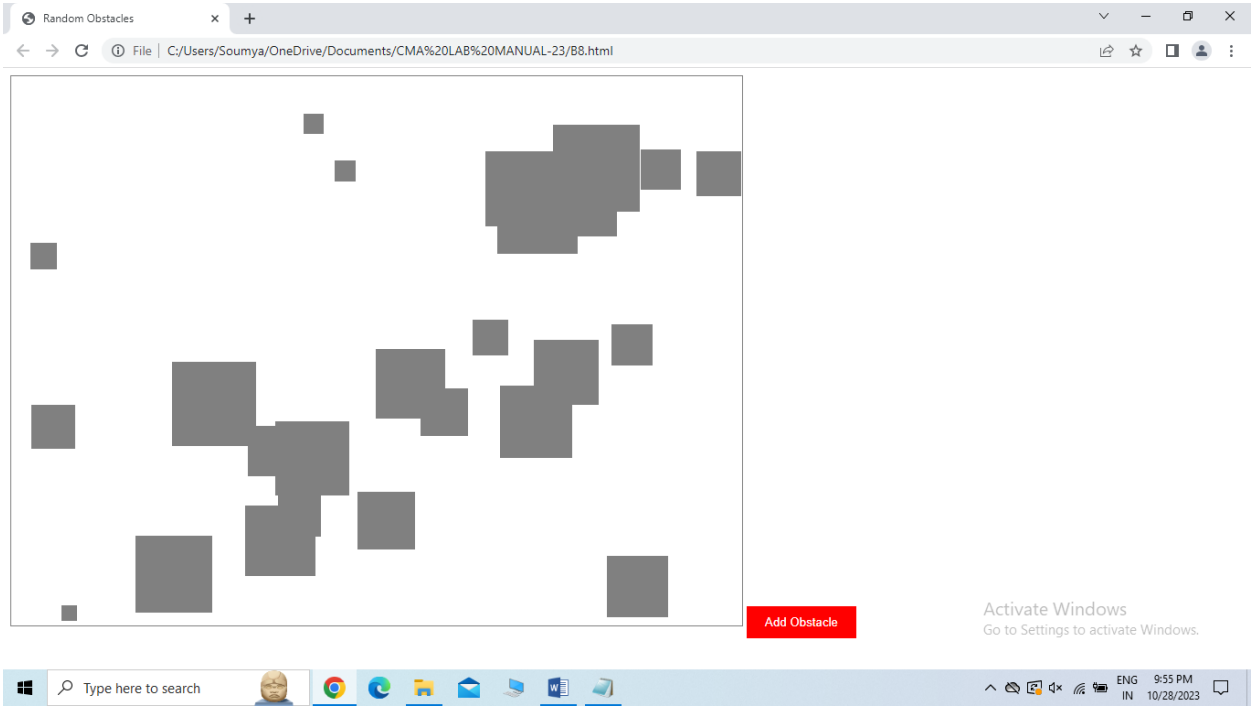


8. Write a HTML/5 canvas program to add random size obstacles with red square controller button.

```
<html>
<head>
<title>Random Obstacles </title>
<style>
   #controller
  {
      background-color:red;
      color:white;
      padding:10px 20px;
      border:none;
      cursor:pointer;
   }
</style>
 </head>
<body>
<canvas id="myCanvas" width="800" height="600" style="border:1px
solid grey"></canvas>
<button id="controller" onclick="addObstacle()"> Add
Obstacle</button>
<script>
var c = document.getElementById("myCanvas");
var ctx = c.getContext("2d");

function getRandomInt(min,max)
{
   return Math.floor(Math.random() *(max-min+1)) +min;
}

function addObstacle()
{
  const Size=getRandomInt(10,100);
  const x=getRandomInt(0, c.width - Size);
  const y=getRandomInt(0, c.height - Size);
  ctx.fillStyle='grey';
  ctx.fillRect(x,y,Size,Size);
}
</script>
</body>
```

</html>

OUTPUT


Random Obstacles
File | C:/Users/Soumya/OneDrive/Documents/CMA%20LAB%20MANUAL-23/B8.html
Add Obstacle
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
IN
9:55 PM
10/28/2023