Create a **d3\_lab.html** and practice all the following svgs and d3 usage by implementing the blue colored codes.

**Lab3 submission:**

1. a working **d3\_lab.html** with your **name** and **email** on it.
2. your answers to 1.2 to 1.4
3. **SVG (Scalable Vector Graphics)**

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| <BODY>  …  <svg >  <line x1="50" y1="50" x2="100" y2="100" stroke-width="10" stroke="red" />  <line x1="100" y1="100" x2="200" y2="0" stroke-width="10" stroke="black" />  </svg>  …  </BODY> |
| <svg width="200" height="200">  <circle cx="50" cy="50" r="40" stroke="black" stroke-width="4" fill="yellow" />  </svg>  \*More shapes and <https://www.w3schools.com/graphics/svg_intro.asp> |
| 1.1 How do you draw a rectangle with filling color as yellow? (Hint: <https://www.w3schools.com/graphics/svg_intro.asp>)  <rect width="100" height="20" fill="yellow" stroke="black" y="120" ></rect> |
| 1.2 How do you draw **3 rectangles align horizontally** but not overlapping each other, filling colors are respectively yellow orange red? |
| 1.3 How do you draw **3 circles align vertically** but not overlapping each other, filling colors are respectively yellow orange red?  <text x="250" y ="320" fill="black">tutorial 1.3</text> |
| 1.4 How do you duplicate the graphics in 1.2 at the coordinates (500,0)? (approximately the middle of the screen) *Hint: group the svg shapes in <g> </g> and transform attribute*  (ref: https://www.tutorialspoint.com/d3js/d3js\_svg\_transformation.htm) |
| 1.5 Include d3.js to the page, and change the background color to a color of your choice.  …  <head>  <script src="https://d3js.org/d3.v5.min.js"></script>  </head>  <body>  <script type="text/javascript">  **d3.select("body").style**("background-color","#dbf6f3");  </script>  </body>  …  Reference: <https://github.com/d3/d3-selection> |
| \* Practice at home, draw a smiley face in SVG (submit it via Camino with assign#2 for 5 point bonus)  Macintosh HD:Users:Sharonpova:Desktop:Screen Shot 2013-09-17 at 11.39.34 PM.png |

\*Color reference <http://www.w3schools.com/cssref/css_colors_legal.asp>

\*More other d3 tutorial: <https://github.com/mbostock/d3/wiki/Tutorials>

1. **Selections:**

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| <html>  <head>  **<script src="http://d3js.org/d3.v3.min.js"></script>**  </head>  <body>  <h2>COEN60 Lab</h2>  <div id="viz"></div>  </body>  </html> |
| use d3 selector to change background color from white to grey **d3.select**('body').style("background-color","#D8D8D8"); |
| * 1. Use d3 selector to change header text to blue   **d3.select**('h2').style("color","blue"); |
| * 1. change heading2 text to a random color   ref: https://github.com/d3/d3/blob/master/API.md#colors-d3-color  **d3.select**('h2').style("color",  function() {  return "rgb(" + Math.random() \* 255 + ",100,50)";  }  ); |
| * 1. change heading2 text to “What?”   **d3.select**('h2').text("What?"); |

1. **Using d3 to bind data:**

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| * 1. **create multiple circles from a data array**   var dataArray = [100,50,10];  var circles = d3.select("svg")  .selectAll("circle")  **.data**(dataArray);  circles.**enter()**  **.append**("circle")  **.attr**("cx", function (d) {  return d;  })  .attr("cy", function (d) {  return d;  })  .attr("r", function (d) {  return d;  })  .style("fill", function() {  return "rgb(" + Math.random() \* 255 + ",100,50)";  }); |
| * 1. Bind data with multiple data arrays     var circleData = **[**  **[10,"#dbf6f3",10],**  **[30,"#5dade2",20],**  **[60,"#2874a6",25],**  **[100,"#154360",30]**  **];**  var circles = d3.select("svg")  .selectAll("circle")  .data(circleData);    circles.enter()  .append("circle")  .attr("cx", function (d) {  return **d[0]**;  })  .attr("cy", function (d) {  return **d[0]**;  })  .attr("r", function (d) {  return **d[2];**  })  .style("fill", function(d){return **d[1**]}); |

\* Understanding D3 selections <http://prcweb.co.uk/lab/selection/>