

### Task 3.1

## The D3 Journey Start Here



Fig1. Output

```
1 <!DOCTYPE html>
2 <html lang = "en">
3 <head>
4   <meta charset = "utf-8" />
5   <meta name = "description" content = "Data Visualisation"/>
6   <meta name = "keywords" content = "HTML,CSS,D3" />
7   <meta name = "author" content = "Toan Nguyen" />
8
9   <title> Task 3.1 Drawing with data</title>
10
11   <script src = "https://d3js.org/d3.v7.min.js" ></script>
12
13 </head>
14
15 <body>
16   <h1> The D3 Journey Start Here </h1>
17   <script src="scripts.js"></script>
18   <br>
19   <bf>
20   <footer style = "color:grey"> COS30045 Data Visualisation<br>
21   Toan Nguyen</footer>
22 </body>
23
24 </html>
```

Fig2. 3.1 HTML code

```

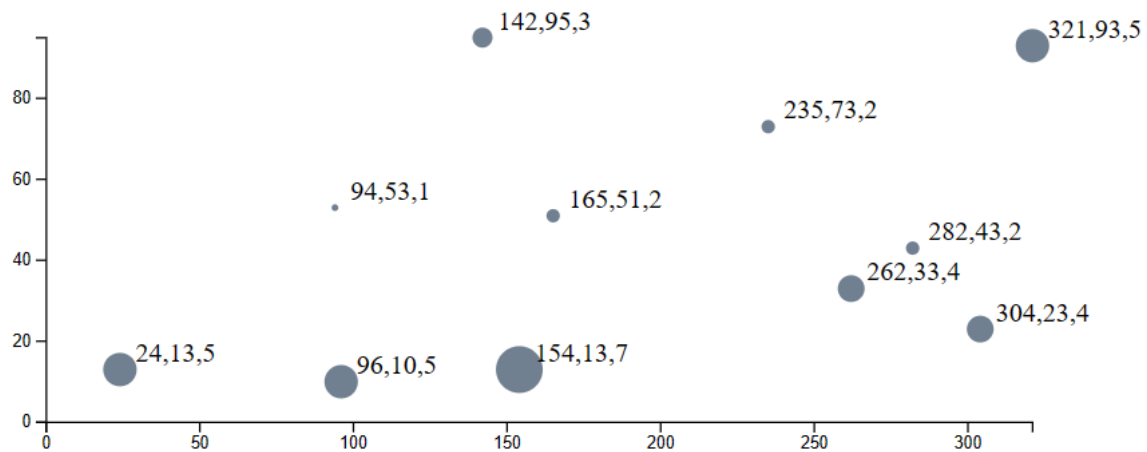
1  var w = 700;
2  var h = 300;
3  var padding = 35;
4
5  var dataset = [
6    [142,95,3],
7    [262,33,4],
8    [94,53,1],
9    [282,43,2],
10   [165,51,2],
11   [96,10,5],
12   [24,13,5],
13   [304,23,4],
14   [154,13,7],
15   [321,93,5],
16   [235,73,2],
17   [600,200,5]
18 ];
19
20 var xScale = d3.scaleLinear()
21   .domain([d3.min(dataset, function (d) {
22     .return d[0]; //set lowest value of data to be scale at 0.0 rati
23   }], d3.max(dataset, function (d){
24     .return d[0]; //set highest value of data to be scale at 1.0 rati
25   }
26   ))
27   .range([padding, w - (padding + 40)]); //dataset scale on scree
28   n
29
30 var yScale = d3.scaleLinear()
31   .domain([d3.min(dataset, function (d) {
32     .return d[1]; //set lowest value of data to be scale as 0.0 rati
33   }], d3.max(dataset, function (d){
34     .return d[1]; //set highest value of data to be scale at 1.0 rati
35   }
36   ))
37   .range([padding, h -padding]); //dataset scale on scree
38   n
39
40 var svg = d3.select("body") //Select the body of the documen
41   .append("svg") //append the svg to the the element "bod
42   .attr("height",h) //svg's heigh
43   .attr("width", w); //svg's widt
44   .h
45
46 svg.selectAll("circle") //select all rectangle
47   .data(dataset) //sount and prepare dataset
48   .enter() //create the space holder for the datase
49   .append("circle")
50   .attr("cx", function(d,i) {
51     .return xScale(d[0]);
52   })
53   .attr("cy", function(d,i) {
54     .return h - yScale(d[1]);
55   })
56   .attr("r", function(d) {
57     .return d[2]*2;
58   })
59   .attr("fill", "slategray");
60
61
62
63
64
65
66
67
68
69
70
71

```

Fig 3: Task 3.1 JS code

## Task 3.2

# The D3 Journey Start Here



COS30045 Data Visualisation  
Toan Nguyen

Fig 4: Task 3.2 Output

```
1 <!DOCTYPE html>
2 <html lang = "en">
3 <head>
4   <meta charset = "utf-8" />
5   <meta name = "description" content = "Data Visualisation"/>
6   <meta name = "keywords" content = "HTML,CSS,D3" />
7   <meta name = "author" content = "Toan Nguyen" />
8
9   <title> Task 3.2 Drawing with data</title>
10
11   <script src = "https://d3js.org/d3.v7.min.js" ></script>
12
13 </head>
14
15 <body>
16   <h1> The D3 Journey Start Here </h1>
17
18   <script src="scripts.js"></script>
19
20   <br>
21   <bf>
22   <footer style = "color:grey"> COS30045 Data Visualisation<br>
23   Toan Nguyen</footer>
24 </body>
25
26 </html>
```

Fig 5: Task 3.2 HTML code

```

1 var w = 700;
2 var h = 300;
3 var padding = 35;
4
5 // This is the dataset
6 var dataset = [
7   [142,95,3],
8   [262,33,4],
9   [94,53,1],
10  [282,43,2],
11  [165,51,2],
12  [96,10,5],
13  [24,13,5],
14  [304,23,4],
15  [154,13,7],
16  [321,93,5],
17  [235,73,2]
18 ];
19
20 //xScale and yScale are for scaling the value of dataset to match wit
21 h//the size of the width and height above
22 var xScale = d3.scaleLinear()
23   .domain([d3.min(dataset, function (d) {
24     // return d[0]; //set lowest value of data to be scale at 0.0 rati
25     return 0; // set the scale at zero as 0.0 rati
26   }],
27     d3.max(dataset, function (d){
28       return d[0]; //set highest value of data to be scale at 1.0 rati
29     })
30   .range([padding, w - (padding + 40)]); //dataset scale on scree
31
32 var yScale = d3.scaleLinear()
33   .domain([d3.min(dataset, function (d) {
34     // return d[1]; //set lowest value of data to be scale as 0.0 rati
35     return 0; //set the scale at zero as 0.0 rati
36   }],
37     d3.max(dataset, function (d){
38       return d[1]; //set highest value of data to be scale at 1.0 rati
39     })
40   .range([h - padding, padding]); //dataset scale on scree
41
42 // This set how many ticks appear on the x and y axe
43 var xAxis = d3.axisBottom()
44   .ticks(5)
45   .scale(xScale);
46 var yAxis = d3.axisLeft()
47   .ticks(5)
48   .scale(yScale);
49
50
51 var svg = d3.select("body") //Select the body of the documen
52   .append("svg") //append the svg to the the element "bod
53   .attr("height",h) //svg's heigh
54   .attr("width", w); //svg's widt
55   .h
56
57 svg.selectAll("circle") //select all rectangle
58   .data(dataset) //count and prepare dataset
59   .enter() //create the space holder for the dataset
60   .append("circle")
61   .attr("cx", function(d,i) {
62     return xScale(d[0]);
63   })
64   .attr("cy", function(d,i) {
65     return yScale(d[1]); //h - yScale so that the value not up side dow
66   })
67   .attr("r", function(d) {
68     return d[2]*2;
69   })
70   .attr("fill", "slategray");
71
72
73 svg.selectAll("text")
74   .data(dataset)
75   .enter()
76   .append("text")
77   .text(function(d){
78     return d[0] + ", " + d[1] + ", " + d[2];
79   })
80   .attr("x", function(d){
81     return xScale(d[0]+5);
82   })
83   .attr("y", function(d) {
84     return yScale(d[1]+2);
85   });
86
87 svg.append("g")
88   .attr("transform", "translate(0, + (h - padding)+ ")") // Transform to not being upside dow
89   .call(xAxis);
90
91 svg.append("g")
92   .attr("transform", "translate + padding + ", 0 " + ")")
93   .call(yAxis);

```

Fig 6: Task 3.2 JS code

# COS30045

## LAB 4.1 Design Studio



### Overview

In this lab you will be given a sample data set and asked to identify the different data and attribute types. You will also think about some questions about this data set that might be answered by a visualisation.

ardd\_fatalities\_Jan2020\_0.xlsx (download from Canvas)

Download and review this data set before attempting this exercise.

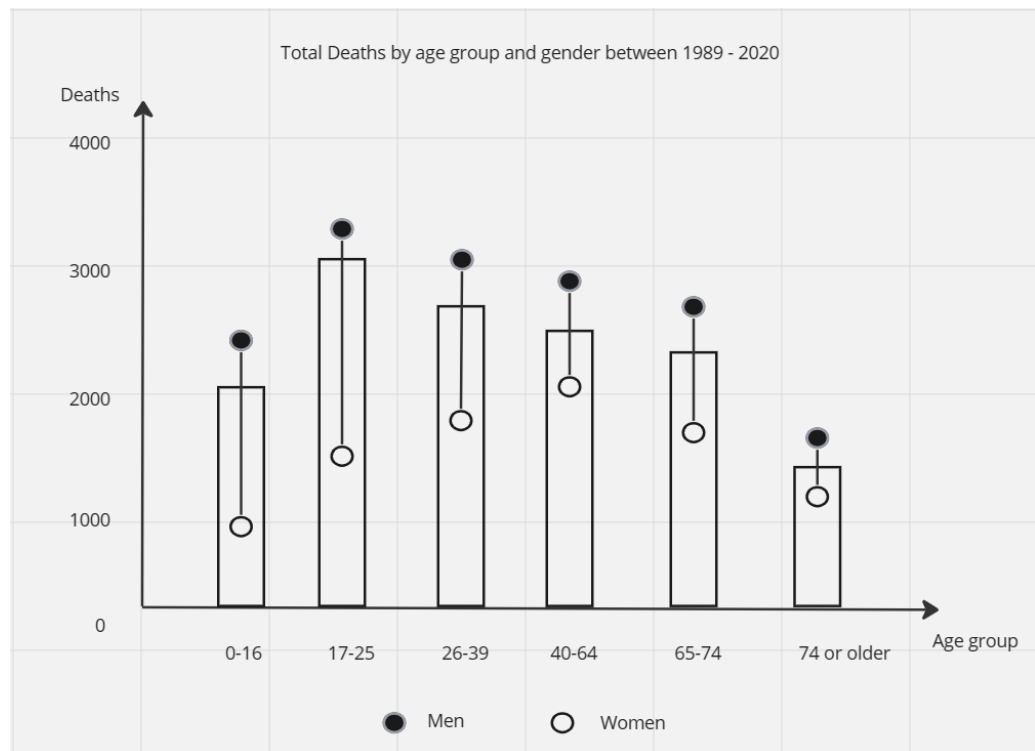
### 1 Interpreting the data set

Complete the LAB 4.1 Quiz.

### 2 Visualisation Design

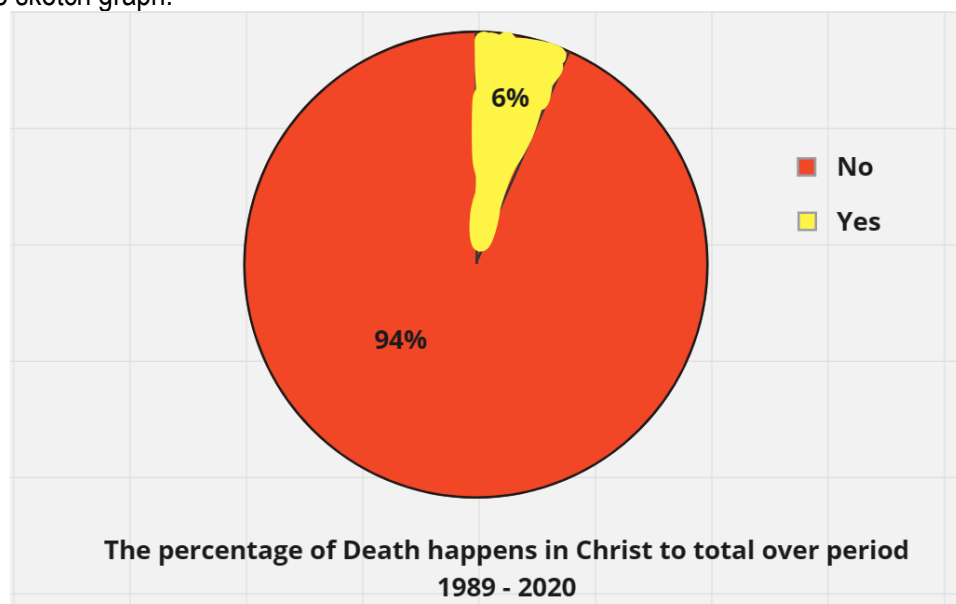
#### 1. Which is the age group which controlling vehicle and gender causing crash the most?

- The data attributes need to get to answer this question is Road User, Gender, and Age group. Road user used to identify if the person died in the crash, is the driver. Meanwhile the gender is to specify driver is male or female. And Age group is the main items as data type.
- The data need to transform for this task is Road User and Age Group, to only select the vehicle driver which means attribute match with "driver", "motor cycle rider",... and the Age group is to change the format "0\_to\_16" to "0-16" or "0 to 16" for better recognition of viewer
- This transform of data does not change the data types which is string.
- The sketch graph:



## 2. Do Christmas period affects deaths.

- The data attributes need to get to answer this question is Christmas Period. This only need to count how many tuples of Yes or No appear in the attributes
- This data don't need to transform because it already a string and the task only need to find string that match with "Yes" or "No"
- The sketch graph:



### 3. What is the trend of death by crash in Major cities of Australia over period 2015 to 2020?

- The data attributes need to get to answer this question is National Remoteness Areas and Year. The attribute National Remoteness Areas is to identify which place happened the death by crashed.
- The data need to transform for this task is National Remoteness Areas and Year, to only select the area in Australia major cities which means attribute match with "Major Cities of Australia", and the Year is to include only year from 2015 to 2020.
- This transform of data could change the data types of year which from string to numeric, however it is not necessary since year in this case is an item and having the same gap between each year, but in the case the gap between each year is difference, we might consider to set the data type as numeric to not violate disco.
- The sketch graph:

