COS30045: Task from week 1 to week 3

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ID: 104180605

Task 1.1

Title of Article about Interesting Visualisation

Author of Interesting Article

A report from Animal Medicines Australia (AMA) has found that many Australians took the opportunity to introduce a pet into their household during the pandemic. Their survey indicated that there was a significant increase in the percent of households taking in a new dog, fish or bird. Their research also indicated that pets had a number of positive influences on their lives such as:

- companionship
- better mental health
- joy and happiness.

Pet ownership in Australia, 2019 vs 2021

Pet type	Household penetration (%)		Total owner households ('000)		Animals per household (average)		Total pets ('000)	
	2019	2021	2019	2021	2019	2021	2019	2021
Dogs	40	47 ▲	3,848.2	4,644.6	1.3	1.4	5,104.7	6,344.3
Cats	27	30	2,602.4	3,030.7	1.4	1.6	3,766.6	4,903.3
Fish	11	13 ▲	1,056.8	1,314.5	10.7	8.5	11,331.7	11,186.5
Birds	9	14 ▲	867.9	1,384.0	6.4	3.9	5,569.4	5,448.4
Small mammals	3	5	257.8	498.9	2.4	3.0	614.5	1,502.0
Reptiles	2	4	194.5	426.4	1.9	1.6	364.2	663.4
Other pets	2	1	194.8	118.6	9.2	3.4	1,785.3	401.2
Pet Owners	**61**	**69** ▲	**5.9 m**	**6.8 m**			**28.5 m**	**30.4 m**
Non-Owners	**39**	**31** ▼	**3.7 m**	**3.1 m**				

Fig 1.Comparison of Pet Ownership in 2019. Data source: Animal Medicines Australia Report

With the increase in pet ownership the AMA are encouraging policy makers to consider the needs of companion animals and their owners when considering rental, strata and body corporate regulations are well as accepting animals in public places and transport.

COS30045 Data Visualisation
Toan Nguyen

Fig 1: Task 1.1 Output

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

<head>
    <meta charset="UTF-8"/>
    <meta name="description"    content="Data Visualisation Exercise 1"/>
    <meta name="keywords"         content="HTML, CSS"/>
    <meta name="author"           content="Your name here"/>

    <title>Task 1.1 HTML and CSS Demo Page</title>
    <!--Insert description of exercise  -->

    <style>
        .task1 {
            width: 50%;
            height: auto;
            display: block;
            margin-left: auto;
            margin-right: auto;
        }
        .task1 img{
            width: 100%;
            height: auto;
        }
    </style>

</head>

<body>

    <h1>Title of Article about Interesting Visualisation</h1>
    <h2>Author of Interesting Article</h2>

    <p>
        A report from Animal Medicines Australia (AMA) has found that many Australians took the
        opportunity to introduce a pet into their household during the pandemic. Their survey indicated that
        there was a significant increase in the percent of households taking in a new dog, fish or bird.
        Their research also indicated that pets had a number of positive influences on their lives such as:
    </p>

    <ul>
        <li>companionship</li>
        <li>better mental health</li>
        <li>joy and happiness.</li>
    </ul>


    <br>

    <div class = task1>
    <figure>
        <img src="pet_ownership_in_australia_table.png">
        <figcaption>Fig 1.Comparison of Pet Ownership in 2019. Data source: <a href=
"https://animalmedicinesaustralia.org.au/wp-content/uploads/2021/08/AMAU005-PATP-Report21_v1.41_WEB.pdf"
>Animal Medicines Australia Report</a></figcaption>

    </figure>

    </div>

    <p>
        With the increase in pet ownership the AMA are encouraging policy makers to consider
        the needs of companion animals and their owners when considering rental, strata and body corporate
        regulations are well as accepting animals in public places and transport.
    </p>

    <footer style = "color:grey"> COS30045 Data Visualisation<br>Toan Nguyen</footer>

</body>
</html>
```

Fig 2: Task 1.1 HTML code

Task 1.2

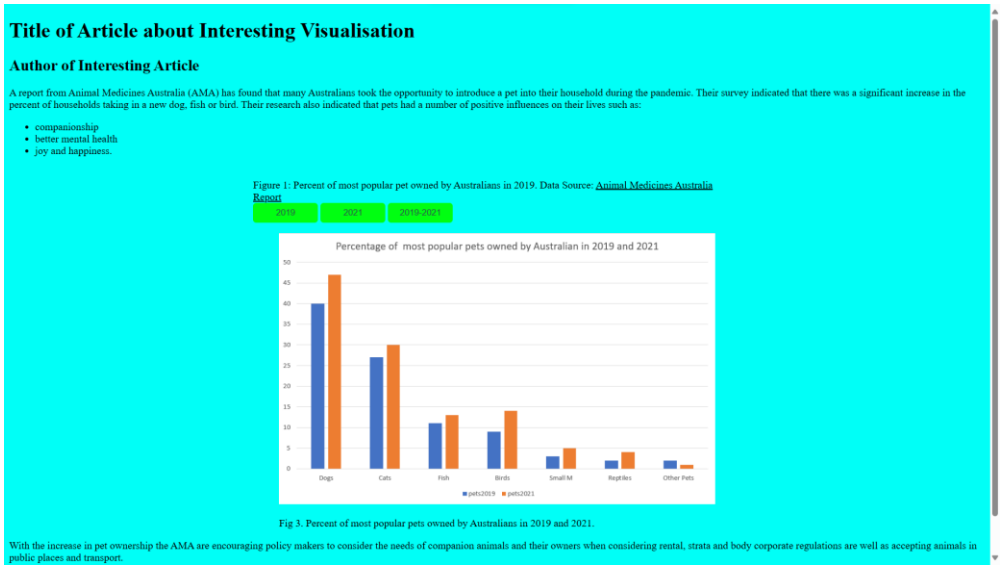


Fig 3: Task 1.2 Output

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

<head>
    <meta charset="UTF-8"/>
    <meta name="description"    content="Data Visualisation Exercise 1"/>
    <meta name="keywords"         content="HTML, CSS"/>
    <meta name="author"           content="Your name here"/>
    <link rel="stylesheet"  href="styles.css" />
    <title>Task 1.1 HTML and CSS Demo Page</title>
    <!--Insert description of exercise  -->
    <script src="1.2.js"></script>
    <style>

    </style>

</head>

<body>

    <h1>Title of Article about Interesting Visualisation</h1>
    <h2>Author of Interesting Article</h2>

    <p>
        A report from Animal Medicines Australia (AMA) has found that many Australians took the
        opportunity to introduce a pet into their household during the pandemic. Their survey indicated that
        there was a significant increase in the percent of households taking in a new dog, fish or bird.
        Their research also indicated that pets had a number of positive influences on their lives such as:
    </p>

    <ul>
        <li>companionship</li>
        <li>better mental health</li>
        <li>joy and happiness.</li>
    </ul>


    <br>

    <div class = task1>
    <!-- <img src="pet_ownership_in_australia_table.png">
    <br>Fig 1.Comparison of Pet Ownership in 2019. Data source: <a href="https://animalmedicinesaustralia.org.au/wp-content/uploads/2021/08/AMAU005-PATP-Report21_v1.41_WEB.pdf">Animal Medicines Australia Report</a> -->
    <caption class="table-caption">
Figure 1: Percent of most popular pet owned by Australians in 2019. Data Source: <a href="https://animalmedicinesaustralia.org.au/wp-content/uploads/2021/08/AMAU005-PATP-Report21_v1.41_WEB.pdf"
>Animal Medicines Australia Report</a><br></caption>
                <tr>
                    <td>
                        <button id="2019" onclick="year2019()">2019</button>
                        <button id="2021" onclick="year2021()">2021</button>
                        <button id="2019-2021" onclick="bothyear()">2019-2021</button>
                    </td>
                </tr>

            <figure>
                <p><img src="1.2-2019-2021.png" alt="chart" id="theimg"></p>
                <figcaption id="figcap">
Fig 3. Percent of most popular pets owned by Australians in 2019 and 2021.</figcaption>
            </figure>

    </div>

    <div>

    </div>

    <p>
        With the increase in pet ownership the AMA are encouraging policy makers to consider
        the needs of companion animals and their owners when considering rental, strata and body corporate
        regulations are well as accepting animals in public places and transport.
    </p>

    <footer style = "color:grey"> COS30045 Data Visualisation<br>Toan Nguyen</footer>

</body>
</html>

```

Fig 4: Task 1.2 HTML code

```
function year2019() {
    document.getElementById('theimg').src = '1.2-2019.png';
    document.getElementById('figcap').innerHTML =
"Fig 1. Percent of most popular pets owned by Australians in 2019."
}

function year2021() {
    document.getElementById('theimg').src = '1.2-2021.png';
    document.getElementById('figcap').innerHTML =
"Fig 2. Percent of most popular pets owned by Australians in 2021."
}

function bothyear() {
    document.getElementById('theimg').src = '1.2-2019-2021.png';
    document.getElementById('figcap').innerHTML =
"Fig 3. Percent of most popular pets owned by Australians in 2019 and 2021."
}
```

Fig 5: Task 1.2 JS code

Task 1.3

Fig 6: Task 1.3 Output

```html
<!DOCTYPE html>
<html lang = "en">
<head>
    <meta charset = "utf-8" />
    <meta name = "description"  content = "Data Visualisation"/>
    <meta name = "keywords"     content = "HTML,CSS,D3" />
    <meta name = "author"       content = "Toan Nguyen" />

    <title> Task 1.3 Drawing with data</title>
</head>

<body>
    <h1> Drawing Shapes with SVG </h1>

    <svg width = "500" height = "50">
        <circle cx = "25", cy = "25", r = "25", fill = "cornflowerblue"/>
        <rect x ="50", y ="50", width = "20", height = "30", fill = "orange"/>
    </svg>

    <br>
    <bf>
    <footer style = "color:grey"> COS30045 Data Visualisation<br>
    Toan Nguyen</footer>
</body>

</html>
```

Fig 7: Task 1.3 HTML code

Task 2.1

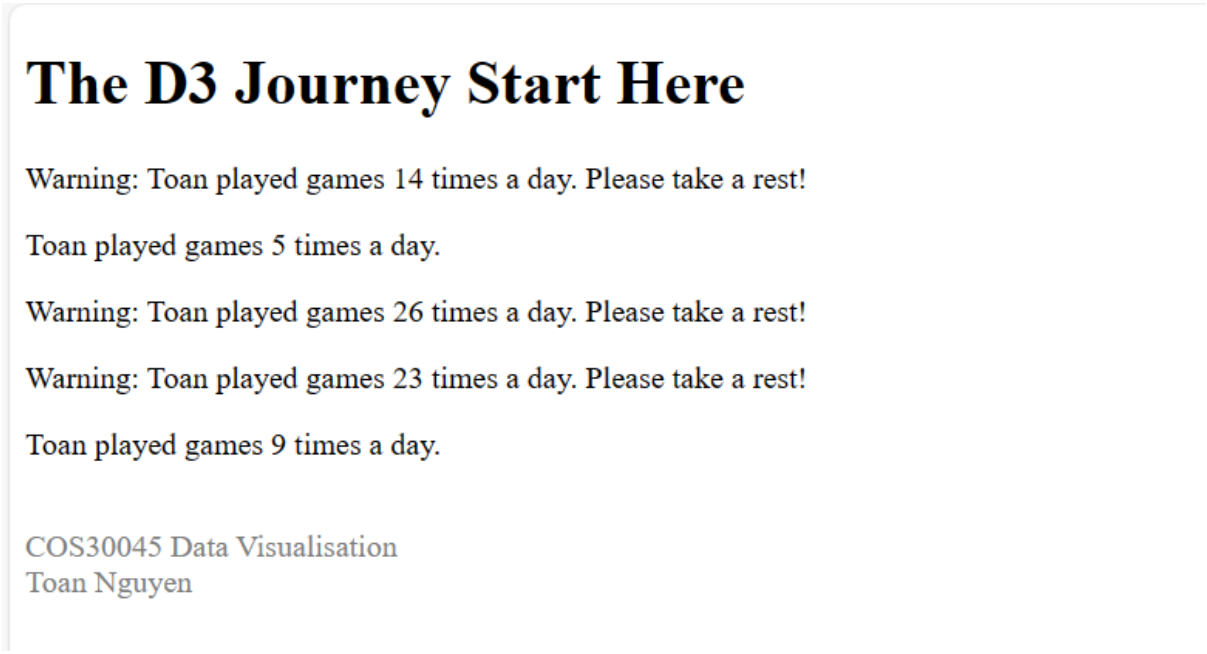


Fig 8: Task 2.1 Output

```html
<!DOCTYPE html>
<html lang = "en">
<head>
    <meta charset = "utf-8" />
    <meta name = "description"  content = "Data Visualisation"/>
    <meta name = "keywords"     content = "HTML,CSS,D3" />
    <meta name = "author"       content = "Toan Nguyen" />

    <title> Task 2.1 D3 Data Binding</title>

    <script src = "https://d3js.org/d3.v7.min.js" ></script>
</head>

<body>
    <h1> The D3 Journey Start Here </h1>

    <script>
        var dataset = [14,5,26,23,9]

        d3.select("body").selectAll("p") //Select all paragraphs "p" in the body element
            .data(dataset)          //This count the elements in the dataset
            .enter()                // Create a placeholder for each element in the dataset
            .append("p")            // Append "p" to each place holder of the dataset
            .text(function(d,t){
                var warning = "";
                var advise = "";
                if (d > 10)
                {
                    warning = "Warning: ";
                    advise = " Please take a rest!";
                }
                return warning + "Toan played games " +d+ " times a day." +advise
;
//Anonymous function that takes value from the dataset as inputs and loop through each value
            });
    </script>

    <br>
    <bf>
    <footer style = "color:grey"> COS30045 Data Visualisation<br>
    Toan Nguyen</footer>
</body>

</html>
```

Fig 9: Task 2.1 HTML code

Task 2.2

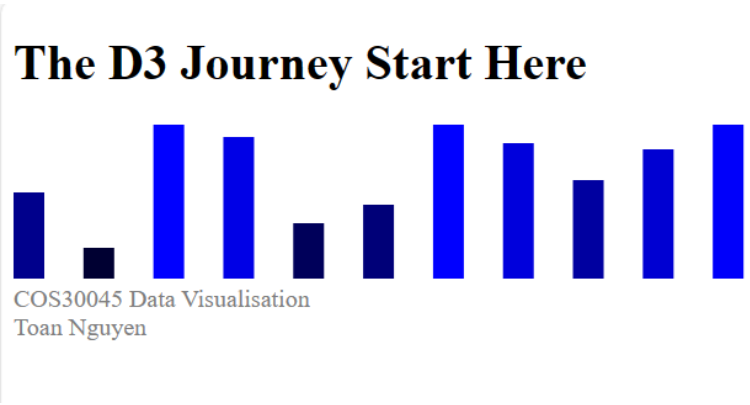


Fig 10: Task 2.2 Output

```html
<!DOCTYPE html>
<html lang = "en">
<head>
    <meta charset = "utf-8" />
    <meta name = "description"  content = "Data Visualisation"/>
    <meta name = "keywords"     content = "HTML,CSS,D3" />
    <meta name = "author"       content = "Toan Nguyen" />

    <title> Task 2.2 Drawing with data</title>

    <script src = "https://d3js.org/d3.v7.min.js" ></script>
</head>

<body>
    <h1> The D3 Journey Start Here </h1>

    <script>
        var w = 500;
        var h = 100;

        var dataset = [14,5,26,23,9,12,28,22,16,21,25]

        var svg = d3.select("body")         //Select the body of the document
                    .append("svg")          //append the svg to the the element "body"
                    .attr("height",h)       //svg's height
                    .attr("width", w);      //svg's width

        svg.selectAll("rect")               //select all rectangles
            .data(dataset)                  //count and prepare dataset
            .enter()                        //create the space holder for the dataset
            .append("rect")
            .attr("x", function(d,i) {
                return i *(w / dataset.length);
            })
            .attr("y", function(d,i) {
                return (h - d*4)})
            .attr("width", 20)
            .attr("height", function(d){
                return d*4;
            })
            .attr("fill", function(d){
                return "rgb(0,0, " + Math.round(d*10) + ")";
            });


    </script>

    <br>
    <bf>
    <footer style = "color:grey"> COS30045 Data Visualisation<br>
    Toan Nguyen</footer>
</body>

</html>
```

Fig 11: Task 2.2 HTML code

Task 2.3

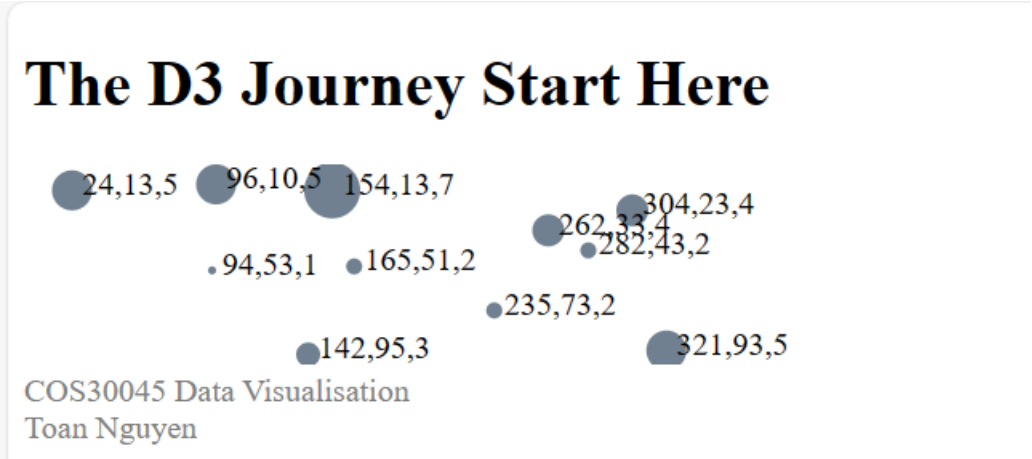
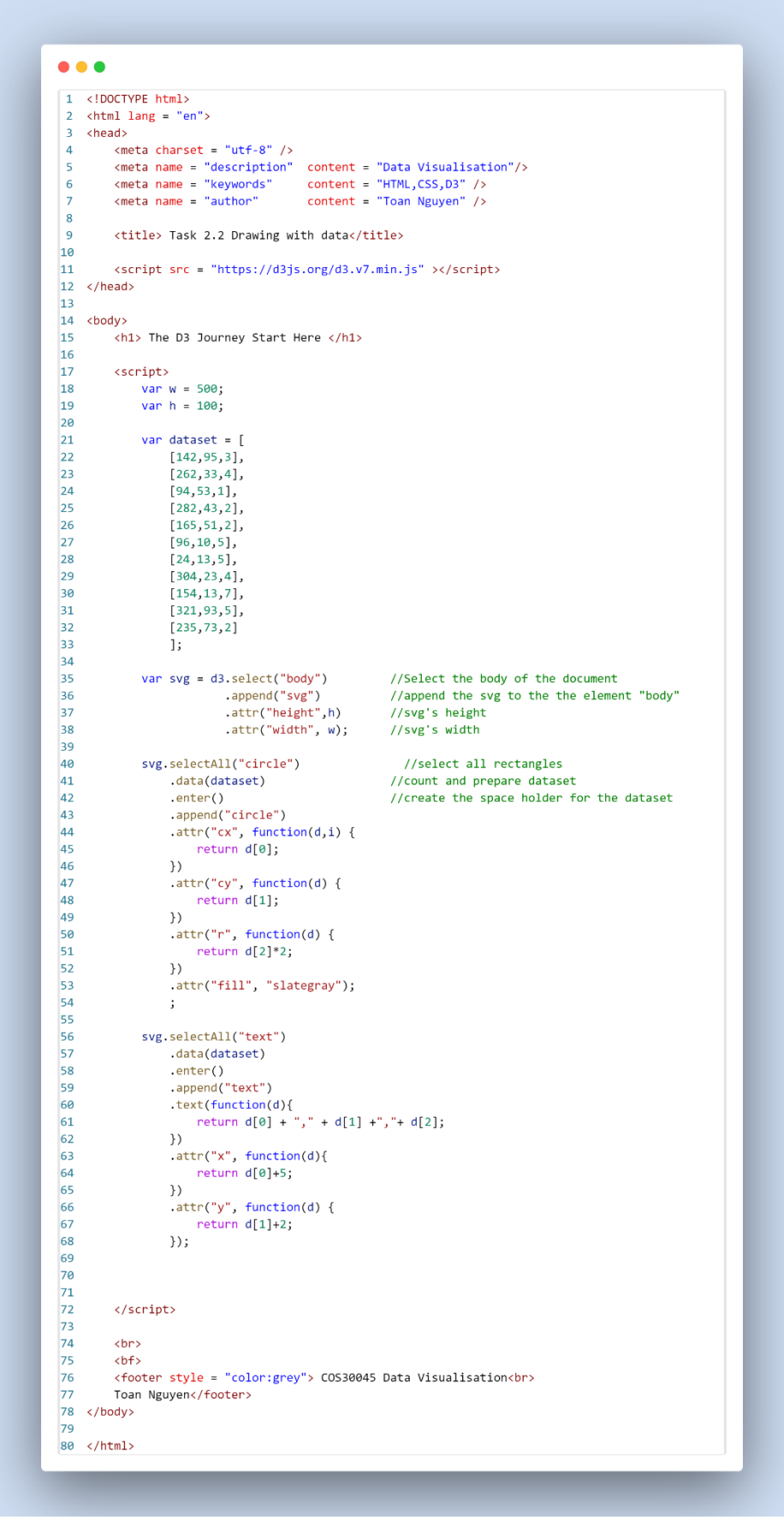


Fig 12: Task 2.3 Output



```
<!DOCTYPE html>
<html lang = "en">
<head>
    <meta charset = "utf-8" />
    <meta name = "description"  content = "Data Visualisation"/>
    <meta name = "keywords"     content = "HTML,CSS,D3" />
    <meta name = "author"       content = "Toan Nguyen" />

    <title> Task 2.2 Drawing with data</title>

    <script src = "https://d3js.org/d3.v7.min.js" ></script>
</head>

<body>
    <h1> The D3 Journey Start Here </h1>

    <script>
        var w = 500;
        var h = 100;

        var dataset = [
            [142,95,3],
            [262,33,4],
            [94,53,1],
            [282,43,2],
            [165,51,2],
            [96,10,5],
            [24,13,5],
            [304,23,4],
            [154,13,7],
            [321,93,5],
            [235,73,2]
            ];

        var svg = d3.select("body")         //Select the body of the document
                    .append("svg")          //append the svg to the the element "body"
                    .attr("height",h)       //svg's height
                    .attr("width", w);      //svg's width

        svg.selectAll("circle")               //select all rectangles
            .data(dataset)                  //count and prepare dataset
            .enter()                        //create the space holder for the dataset
            .append("circle")
            .attr("cx", function(d,i) {
                return d[0];
            })
            .attr("cy", function(d) {
                return d[1];
            })
            .attr("r", function(d) {
                return d[2]*2;
            })
            .attr("fill", "slategray");
            ;

        svg.selectAll("text")
            .data(dataset)
            .enter()
            .append("text")
            .text(function(d){
                return d[0] + "," + d[1] +","+ d[2];
            })
            .attr("x", function(d){
                return d[0]+5;
            })
            .attr("y", function(d) {
                return d[1]+2;
            });



    </script>

    <br>
    <bf>
    <footer style = "color:grey"> COS30045 Data Visualisation<br>
    Toan Nguyen</footer>
</body>

</html>
```

Fig 12: Task 2.3 HTML code

Task 2.4

Fig 13: Task 2.4 Output

```
<!DOCTYPE html>
<html lang = "en">
<head>
    <meta charset = "utf-8" />
    <meta name = "description"  content = "Data Visualisation"/>
    <meta name = "keywords"     content = "HTML,CSS,D3" />
    <meta name = "author"       content = "Toan Nguyen" />

    <title> Task 2.4 Drawing with data</title>

    <script src = "https://d3js.org/d3.v7.min.js" ></script>

</head>

<body>
    <h1> The D3 Journey Start Here </h1>

    <script src="2.4_script.js"></script>

    <br>
    <bf>
    <footer style = "color:grey"> COS30045 Data Visualisation<br>
    Toan Nguyen</footer>
</body>

</html>
```

Fig 14: Task 2.4 HTML code

```
1
2  var w = 500;
3  var h = 100;
4
5  var svg = d3.select("body")         //Select the body of the document
6          .append("svg")          //append the svg to the the element "body"
7          .attr("height",h)       //svg's height
8          .attr("width", w);      //svg's width
9
10 d3.csv("2.4_data.csv").then(function(data) {
11     console.log(data);
12     wombatSightings = data;
13     barChart(wombatSightings);
14 });
15
16 function barChart(dataset){
17     // data(dataset)                  //count and prepare dataset
18     svg.selectAll("rect")               //select all rectangles
19     .data(dataset)                  //count and prepare dataset
20     .enter()                        //create the space holder for the dataset
21     .append("rect")
22     .attr("x", function(d,i) {
23     return i *(w / dataset.length);
24     })
25     .attr("y", function(d) {
26     return (h - d.wombats*4)})
27     .attr("width", 20)
28     .attr("height", function(d){
29     return d.wombats*4;
30     })
31     .attr("fill", function(d){
32     return "rgb(0,3, " + Math.round(d.wombats*10) + ")";
33     });
34 }
35
36
```

Fig 15: Task 2.4 JS code