7.1.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8"/>
    <meta name="description" content="Data Visualisation"/>
    <meta name="keyword" content="HTML, CSS, D3"/>
    <meta name="author" content="Minh Nguyen"/>
    <title>Task 7.1</title>
    <link rel="stylesheet" href="7.1.css">
</head>
<body>
    <h1>Number of Unemployed in Australia</h1>
    <p id="chart"></p>
    <br>
    <bf></bf>
    <footer style="color:grey">COS30045 Data Visualisation<br>Minh
Nguyen</footer>
    <script src="https://d3js.org/d3.v7.min.js"></script>
    <script src="7.1.js"></script>
</body>
</html>
```

7.1.css

```
.line {
    fill: none;
    stroke: slategray;
    stroke-width: 0.5;
}

.area {
    fill: slategray;
    stroke: slategray;
    stroke-width: 0.5;
}
```

7.1.js

```
function init() {
    var w = 600;
    var h = 300;
    var padding = 55;

    var dataset;

    function lineChart(dataset) {
```

```
      var svg = d3.select("#chart")
                  .append("svg")
                  .attr("width", w)
                  .attr("height", h);

      var xScale = d3.scaleTime()
                     .domain([
                        d3.min(dataset, function(d) { return d.date; }),
                        d3.max(dataset, function(d) { return d.date; })
                     ])
                     .range([padding, w]);

      var yScale = d3.scaleLinear()
                     .domain([0, d3.max(dataset, function(d) { return d.number;
})])
                     .range([h - padding + 10, 0]);

      var xAxis = d3.axisBottom().ticks(10).scale(xScale);
      var yAxis = d3.axisLeft().ticks(10).scale(yScale);

      //creating line
      var line = d3.line()
                  .x(function(d) { return xScale(d.date); })
                  .y(function(d) { return yScale(d.number); });

      area = d3.area()
                  .x(function(d) { return xScale(d.date); })
                  //base line for area shape
                  .y0(function() { return yScale.range()[0];})
                  .y1(function(d) { return yScale(d.number); });

      //append line
      svg.append("path")
        .datum(dataset)
        .attr("class", "line")
        .attr("d", line);

      svg.append("path")
        .datum(dataset)
        .attr("class", "area")
        .attr("d", area);

      svg.append("g") //Append the x and y axis to the SVG element as groups
        .attr("transform", "translate(0, "+ (h - padding + 10) +")")
//translating them to the appropriate positions
        .call(xAxis);

      svg.append("g")
```

```
        .attr("transform", "translate(" + (padding) + ", 0)")
        .call(yAxis);

      svg.append("line")
        .attr("class", "line halfMilMark")
      //start of the line
        .attr("x1", padding)
        .attr("y1", yScale(500000))
      //end of the line
        .attr("x2", w)
        .attr("y2", yScale(500000))
        .style("stroke", "red") // set stroke color to red
        .style("stroke-dasharray", "2"); // set stroke dasharray to create a
dotted effect

      svg.append("text")
        .attr("class", "halfMilLabel")
        .attr("x", padding + 10)
        .attr("y", yScale(500000) - 7)
        .text("Half a million unemployed")
        .attr("fill", "red");

    }

    d3.csv("Unemployment_78-95.csv", function(d) {
      return {
        date: new Date(+d.year, +d.month - 1),
        number: +d.number
      };
    }).then(function(data) {
      dataset = data;
      lineChart(dataset);
      // console.table(dataset, ["date", "number"]); check the DOM for values
of CSV
    });
  }

  window.onload = init;
```

7.2.html donutchart

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8"/>
    <meta name="description" content="Data Visualisation"/>
    <meta name="keyword" content="HTML, CSS, D3"/>
```

```
    <meta name="author" content="Minh Nguyen"/>
    <title>Task 7.2</title>
</head>
<body>
    <h1>Donut Chart</h1>
    <p id="chart"></p>
    <br>
    <bf></bf>
    <footer style="color:grey">COS30045 Data Visualisation<br>Minh
Nguyen</footer>
    <script src="https://d3js.org/d3.v7.min.js"></script>
    <script src="7.2.1.js"></script>
</body>
</html>
```

7.2.js donutchart

```
function init() {
    var w = 300;
    var h = 300;
    var padding = 55;

    var dataset = [5, 10, 15, 20, 25, 30];

    var outerRadius = w/2;

    //Later you can change the value of the inner radius to generate donut
charts
    var innerRadius = h/3;

    var arc = d3.arc()
                .outerRadius(outerRadius)
                .innerRadius(innerRadius);

    var pie = d3.pie();

    var svg = d3.select("#chart")
                .append("svg")
                .attr("width", w)
                .attr("height", h);

    var arcs = svg.selectAll("g.arc")
                  .data(pie(dataset))
                  .enter()
                  .append("g")
                  .attr("class", "arc")
                  .attr("transform", "translate(" + outerRadius + "," +
outerRadius + ")");
```

```
    var color = d3.scaleOrdinal(d3.schemeCategory10);

    arcs.append("path")
        .attr("fill", function(d, i) {
          return color(i)
        })
        .attr("d", function(d, i){
          return arc(d, i)
        });

    arcs.append("text")
        .text(function(d){
          return d.value
        })
        .attr("transform", function(d){
          return "translate(" + arc.centroid(d) +")";
        })
        .attr("font-size", "14px")
        .attr("font-weight", "bold");
  }

  window.onload = init;
```

7.2.html piechart

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8"/>
    <meta name="description" content="Data Visualisation"/>
    <meta name="keyword" content="HTML, CSS, D3"/>
    <meta name="author" content="Tyler Dang"/>
    <title>Task 7.2</title>
</head>
<body>
    <h1>Pie Chart</h1>
    <p id="chart"></p>
    <br>
    <bf></bf>
    <footer style="color:grey">COS30045 Data Visualisation<br>Minh
Nguyen</footer>
    <script src="https://d3js.org/d3.v7.min.js"></script>
    <script src="7.2.2.js"></script>
</body>
</html>
```

7.2.js piechart

```
function init() {
    var w = 300;
    var h = 300;
    var padding = 55;

    var dataset = [5, 10, 15, 20, 25, 30];

    var outerRadius = w/2;

    //Later you can change the value of the inner radius to generate donut
charts
    var innerRadius = 0;

    var arc = d3.arc()
                .outerRadius(outerRadius)
                .innerRadius(innerRadius);

    var pie = d3.pie();

    var svg = d3.select("#chart")
                .append("svg")
                .attr("width", w)
                .attr("height", h);

    var arcs = svg.selectAll("g.arc")
                  .data(pie(dataset))
                  .enter()
                  .append("g")
                  .attr("class", "arc")
                  .attr("transform", "translate(" + outerRadius + "," +
outerRadius + ")");

    var color = d3.scaleOrdinal(d3.schemeCategory10);

    arcs.append("path")
        .attr("fill", function(d, i) {
          return color(i)
        })
        .attr("d", function(d, i){
          return arc(d, i)
        });

    arcs.append("text")
        .text(function(d){
          return d.value
        })
        .attr("transform", function(d){
```

```
          return "translate(" + arc.centroid(d) +")";
        })
        .attr("font-size", "14px")
        .attr("font-weight", "bold");
  }

  window.onload = init;
```

7.3.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8"/>
    <meta name="description" content="Data Visualisation"/>
    <meta name="keyword" content="HTML, CSS, D3"/>
    <meta name="author" content="Minh Nguyen"/>
    <title>Task 7.3</title>
</head>
<body>
    <h1>Stacked Bar Chart</h1>
    <p id="chart"></p>
    <br>
    <bf></bf>
    <script src="https://d3js.org/d3.v6.min.js"></script>
    <script src="7.3.js"></script>
    <footer style="color:grey">COS30045 Data Visualisation<br>Minh
Nguyen</footer>
</body>
</html>
```

7.3.js

```
function init() {
    var w = 300;
    var h = 300;

    var dataset = [
      {apples: 5, oranges: 10, grapes: 22},
      {apples: 4, oranges: 12, grapes: 28},
      {apples: 2, oranges: 19, grapes: 32},
      {apples: 7, oranges: 23, grapes: 35},
      {apples: 23, oranges: 17, grapes: 43}
    ];

    var stack = d3.stack()
                  .keys(["apples", "oranges", "grapes"]);
```

```
  var series = stack(dataset);

  var svg = d3.select("#chart")
              .append("svg")
              .attr("width", w)
              .attr("height", h);

  var color = d3.scaleOrdinal(d3.schemeCategory10);

  var group = svg.selectAll("g")
                 .data(series)
                 .enter()
                 .append("g")
                 .style("fill", function(d, i){
                   return color(i);
                 });
  //Scaleband for xScale when generating stack bar chart
  var xScale = d3.scaleBand()
                 .domain(dataset.map(function(d, i) {
                   return i;
                 }))
                 .range([0, w])
                 .padding(0.1);

  var yScale = d3.scaleLinear()
                 .domain([0, d3.max(dataset, function(d){
                   return d.apples + d.oranges +d.grapes;
                 })])
                 .range([h, 0]);
  var rects = group.selectAll("rect")
                   .data(function(d){ return d;})
                   .enter()
                   .append("rect")
                   .attr("x", function(d, i) {
                     return xScale(i);
                   })
                   .attr("y", function(d, i){
                     return yScale(d[1]);
                   })
                   .attr("height", function(d) {
                     return yScale(d[0]) - yScale(d[1]);
                   })
                   .attr("width", xScale.bandwidth());
}

window.onload = init;
```

8.1.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8"/>
    <meta name="description" content="Data Visualisation"/>
    <meta name="keyword" content="HTML, CSS, D3"/>
    <meta name="author" content="Minh Nguyen"/>
    <title>Task 8.1</title>
</head>
<body>
    <h1>Victorian LGA Map</h1>
    <p id="chart"></p>
    <br>
    <bf></bf>
    <footer style="color:grey">COS30045 Data Visualisation<br>Minh
Nguyen</footer>
    <script src="https://d3js.org/d3.v6.min.js"></script>
    <script src="8.1.js"></script>
</body>
</html>
```

8.1.js

```
function init() {
    var w = 500;
    var h = 300;

    var projection = d3.geoMercator()
                       .center([145, -36.5])
                       .translate([w/2, h/2])
                       .scale(2450);

    var path = d3.geoPath().projection(projection)

    var svg = d3.select("#chart")
                .append("svg")
                .attr("width", w)
                .attr("height", h)
                .attr("fill", "grey");

    d3.json("ABS_LGA_2011.json").then(function(json) {

      svg.selectAll("path")
      .data(json.features)
      .enter()
      .append("path")
      .attr("d", path);
```

```
    });

}

  window.onload = init;
```

8.2.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8"/>
    <meta name="description" content="Data Visualisation"/>
    <meta name="keyword" content="HTML, CSS, D3"/>
    <meta name="author" content="Minh Nguyen"/>
    <title>Task 8.2</title>
</head>
<body>
    <h1>Victorian Number Unemployed by LGA</h1>
    <p id="chart"></p>
    <br>
    <bf></bf>
    <footer style="color:grey">COS30045 Data Visualisation<br>Minh
Nguyen</footer>
    <script src="https://d3js.org/d3.v6.min.js"></script>
    <script src="8.2.js"></script>
</body>
</html>
```

8.2.js

```
function init() {
    var w = 500;
    var h = 300;

    var projection = d3.geoMercator()
        .center([145, -36.5])
        .translate([w / 2, h / 2])
        .scale(2450);

    var color = d3.scaleQuantize().range(['#f2f0f8', '#ccc9e4', '#9f99cc',
'#7869b6', "#cccccc", '#5b1f95' ]);

    var path = d3.geoPath().projection(projection);

    var svg = d3.select("#chart")
```

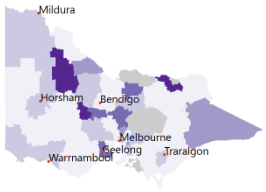
```
        .append("svg")
        .attr("width", w)
        .attr("height", h)

    d3.csv("VIC_LGA_unemployment.csv", function (d) {
        return {
            LGA: d.LGA,
            unemployed: +d.unemployed
        };
    }).then(function(data) {
        d3.json("LGA_VIC.json").then(function(json) {
            // merge the data from VIC_LGA_unemployment.csv and LGA_VIC.json
            // loop through once for each LGA value
            for (var i = 0; i < data.length; i++) {
                //grab LGA name
                var dataState = data[i].LGA;
                // grab data LGA, and convert from string to float
                var dataValue = parseFloat(data[i].unemployed);
                // find the corresponding LGA inside the LGA_VIC.json
                for(var j = 0; j < json.features.length; j++){
                  var jsonState = json.features[j].properties.LGA_name;
                  if(dataState == jsonState){
                      // copy the LGA data value into JSON
                      json.features[j].properties.unemployed = dataValue;
                      break; // stop looking through the JSON
                  }
                }
            }
            // set the domain of the color scale based on the unemployment
data
            color.domain([d3.min(json.features, function(d) { return
d.properties.unemployed; }), d3.max(json.features, function(d) { return
d.properties.unemployed; })]);

            // create the path elements and set the fill color based on the
unemployment data
            svg.selectAll("path")
              .data(json.features)
              .enter()
              .append("path")
              .attr("fill", "#cccccc") //color range didn't work, so use this
in the svg to fix it
              .style("fill", function(d) { return
color(d.properties.unemployed); })
              .attr("d", path);

            // load VIC_city.csv data and create heatmap
            d3.csv("VIC_city.csv", function (d) {
```

```
                return {
                    place: d.place, //for string
                    lat: +d.lat, //for int
                    lon: +d.lon
                };
            }).then(function(data) {
              svg.selectAll("circle")
              .data(data)
              .enter()
              .append("circle")
              .attr("cx", function(d){
                return projection([d.lon, d.lat])[0]; //take the first set in
the csv
              })
              .attr("cy", function(d){
                return projection([d.lon, d.lat])[1]; ////take the second set
in the csv
              })
              .attr("r", 2)
              .style("fill", "red");

              //text for victorian town and city
              svg.selectAll("text")
              .data(data)
              .enter()
              .append("text")
              .attr("x", function(d){
                  return projection([d.lon, d.lat])[0];
              })
              .attr("y", function(d){
                  return projection([d.lon, d.lat])[1];
              })
              .style("fill", "black")
              //iterate over each text svg
              .text(function(d){
                return d.place;
              });
            });
        });
    });
  }

  window.onload = init;
```

Personal | Task 8.2 | LAB 8.2 D3 Choropleths

https://mercury.swin.edu.au/cos30045/s104309099/lab8/8.2/8.2.html

Victorian Number Unemployed by LGA



COS30045 Data Visualisation
Minh Nguyen

14°C Mostly cloudy | Search | ENG US | 9:26 PM 4/29/2024

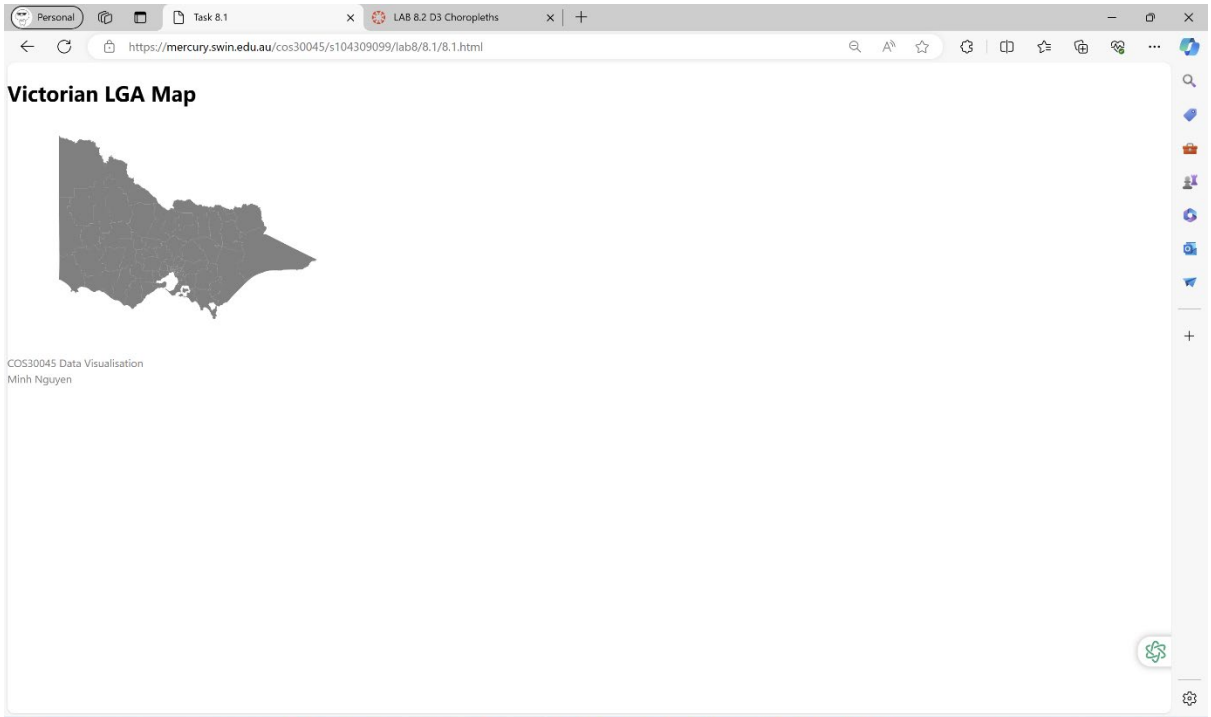
Personal | Task 8.1 | LAB 8.2 D3 Choropleths

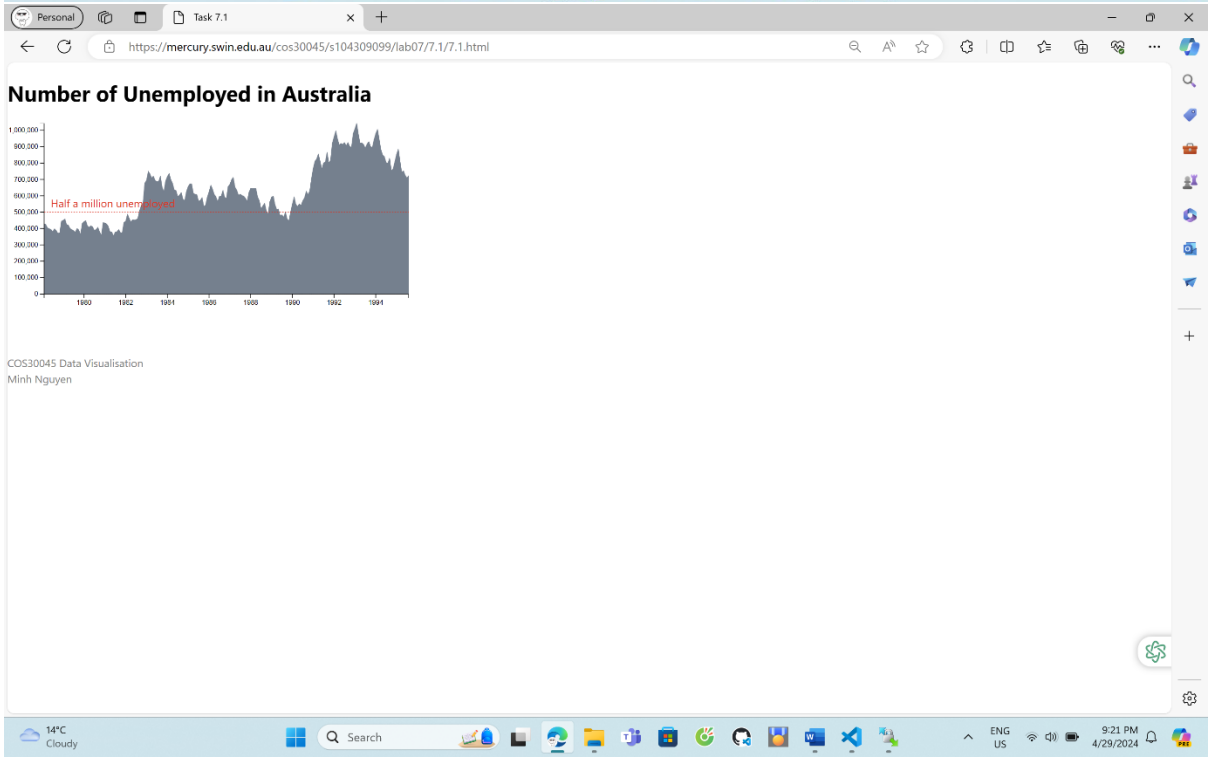
https://mercury.swin.edu.au/cos30045/s104309099/lab8/8.1/8.1.html

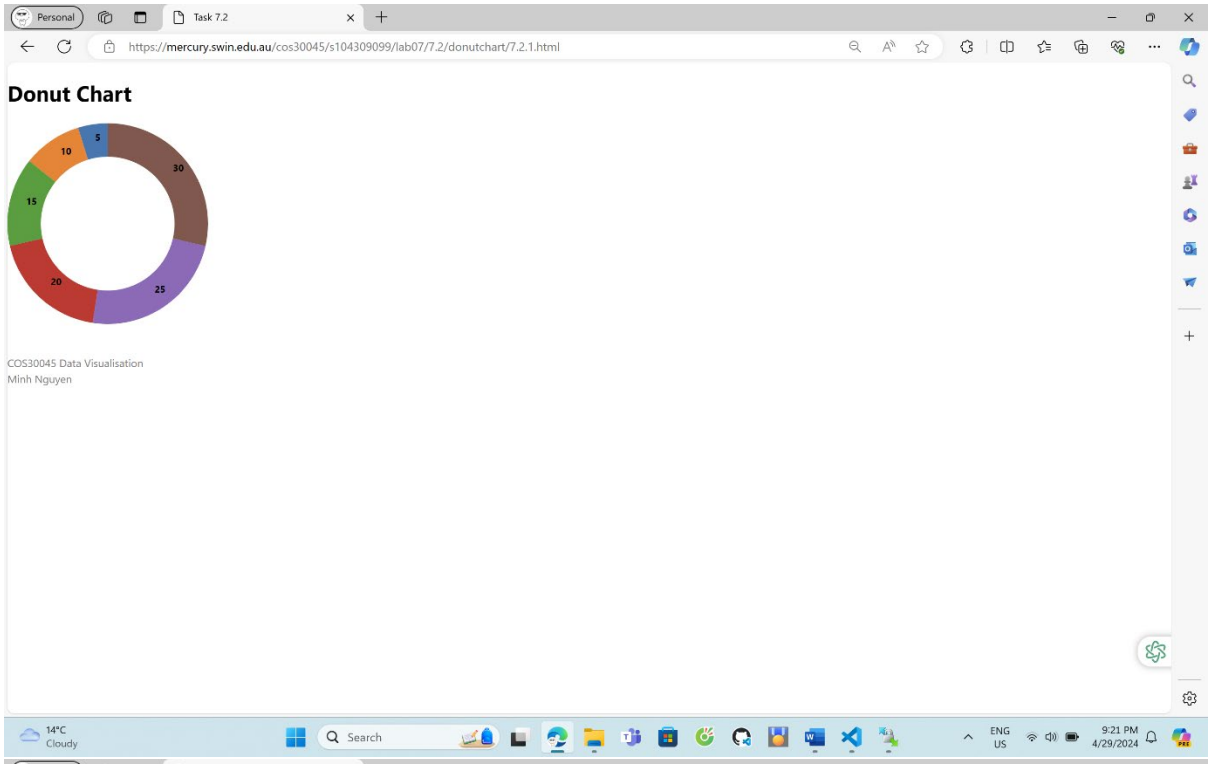
Victorian LGA Map

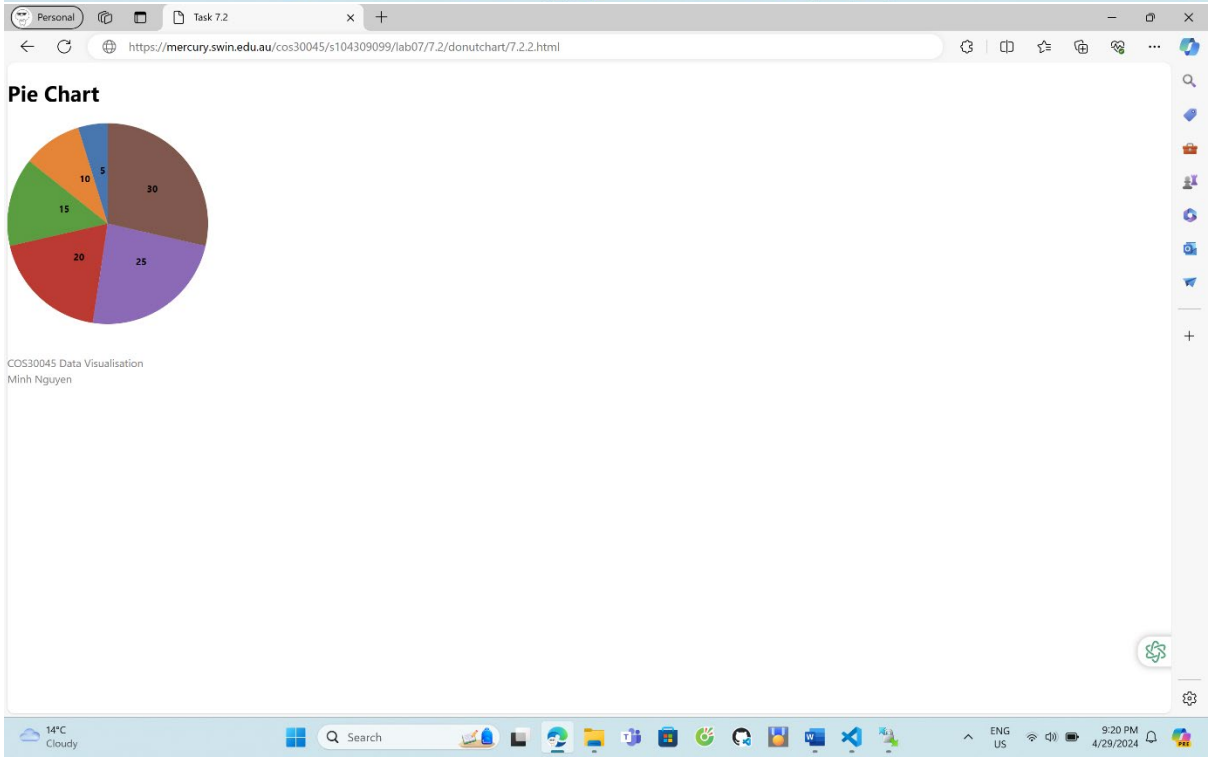
COS30045 Data Visualisation
Minh Nguyen

14°C Mostly cloudy | Search | ENG US | 9:26 PM 4/29/2024


Personal
Task 8.1
LAB 8.2 D3 Choropleths
https://mercury.swin.edu.au/cos30045/s104309099/lab8/8.1/8.1.html
Victorian LGA Map
COS30045 Data Visualisation
Minh Nguyen
14°C
Cloudy
Search
ENG
US
9:26 PM
4/29/2024


Personal
Task 7.1
https://mercury.swin.edu.au/cos30045/s104309099/lab07/7.1/7.1.html
Number of Unemployed in Australia
Half a million unemployed
1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
1980
1982
1984
1986
1988
1990
1992
1994
COS30045 Data Visualisation
Minh Nguyen
14°C
Cloudy
Search
ENG
US
9:21 PM
4/29/2024


Personal
Task 7.2
https://mercury.swin.edu.au/cos30045/s104309099/lab07/7.2/donutchart/7.2.1.html
Donut Chart
5
10
30
15
20
25
COS30045 Data Visualisation
Minh Nguyen
14°C
Cloudy
Search
ENG
US
9:21 PM
4/29/2024


Personal
Task 7.2
https://mercury.swin.edu.au/cos30045/s104309099/lab07/7.2/donutchart/7.2.2.html
Pie Chart
5
10
30
15
20
25
COS30045 Data Visualisation
Minh Nguyen
14°C
Cloudy
Search
ENG
US
9:20 PM
4/29/2024