CS405 HW1 Report

Kaan Bilgili 27983

The dataset that I used for this homework is "Kaba intihar hızı". The dataset has statistics of years 2022-1975 but, I only have years 2022-2011 in my visualization. I keep the data in a static array.

```
const years = [
    // { year: 2004, value: 2707 },
    // { year: 2005, value: 2703 },
    // { year: 2006, value: 2829 },
    // { year: 2007, value: 2793 },
    // { year: 2008, value: 2816 },
    // { year: 2009, value: 2898 },
    // { year: 2010, value: 2933 },
    { year: 2011, value: 2677 },
    { year: 2012, value: 3287 },
    { year: 2013, value: 3252 },
    { year: 2014, value: 3169 },
    { year: 2015, value: 3246 },
    { year: 2016, value: 3193 },
    { year: 2017, value: 3168 },
    { year: 2018, value: 3342 },
    { year: 2019, value: 3476 },
    { year: 2020, value: 3710 },
    { year: 2021, value: 4194 },
    { year: 2022, value: 4146 },
];
```

(Years 2004-2010 are commented out but they would get drawn if they were not commented out)

```
<svg id="view" width="1200" height="500" xmlns="http://www.w3.org/2000/svg">

        <!--Lines of graph -->
    <line x1="100" y1="450" x2="100" y2="25" stroke="black"  stroke-width="2" />
    <line x1="100" y1="450" x2="150" y2="450" stroke="black" stroke-width="2" id="yearline"/>

    <!--Lines for ticks-->

    <line x1="100" y1="387.5" x2="95" y2="387.5" stroke="black" />
    <line x1="100" y1="325" x2="95" y2="325" stroke="black" />
    <line x1="100" y1="262.5" x2="95" y2="262.5" stroke="black" />
    <line x1="100" y1="200" x2="95" y2="200" stroke="black" />
    <line x1="100" y1="137.5" x2="95" y2="137.5" stroke="black" />
    <line x1="100" y1="75" x2="95" y2="75" stroke="black" />

    <!--Labels-->

    <text x="50" y="10" fill="black">(Number of Suicides)</text>

    <text x="90" y="455" fill="black">0</text>
    <text x="60" y="392.5" fill="black">1000</text>
    <text x="60" y="330" fill="black">2000</text>
    <text x="60" y="267.5" fill="black">3000</text>
    <text x="60" y="205" fill="black">4000</text>
    <text x="60" y="142.5" fill="black">5000</text>
    <text x="60" y="80" fill="black">6000</text>


</svg>
```

The x-axis, y-axis, the ticks for x-axis and the labels for the x-axis are created as such. The only element that is not static here is the y-axis.

I don't have a JavaScript file but instead I wrote the script codes inside the html file. In that script part I have a function that creates bars in the bar chart.

```
function createBar(xpos, height) {
    const bar = document.createElementNS("http://www.w3.org/2000/svg", "rect")
    bar.setAttribute("x", xpos);
    bar.setAttribute("y", 450-height);
    bar.setAttribute("width", 30);
    bar.setAttribute("height", height);
    bar.setAttribute("fill", "#5c7fff");
    return bar;
}
```

And I call this function for each element in the static years list:

```
years.forEach((year, index) => {
    view.appendChild(
    createBar(
    (100+(index+1)*20 + index*30),
    (year.value /16),
    )
);});
```

The xpos value is dependent on the index of the year. The height value is dependent on the number of suicides in that particular year. I set the "y" of the new elements in accordance with their height.

Then for every year, I create a year label, a tick in between labels, and I also create a text that displays the value and I put this text inside the bar.

```javascript
years.forEach((year, index) => {
    const yeartext = document.createElementNS("http://www.w3.org/2000/svg", "text");
    yeartext.setAttribute("x", (100+(index+1)*20 + index*30)),
    yeartext.setAttribute("y", 465),
    yeartext.textContent = year.year,
    view.appendChild(yeartext);
```

Here I create the year label for every input.

```javascript
const tick = document.createElementNS("http://www.w3.org/2000/svg", "line");
tick.setAttribute("stroke", "black")
tick.setAttribute("x1", (110+(index+1)*50)),
tick.setAttribute("x2", (110+(index+1)*50)),
tick.setAttribute("y1", 450),
tick.setAttribute("y2", 455),
view.appendChild(tick);
```
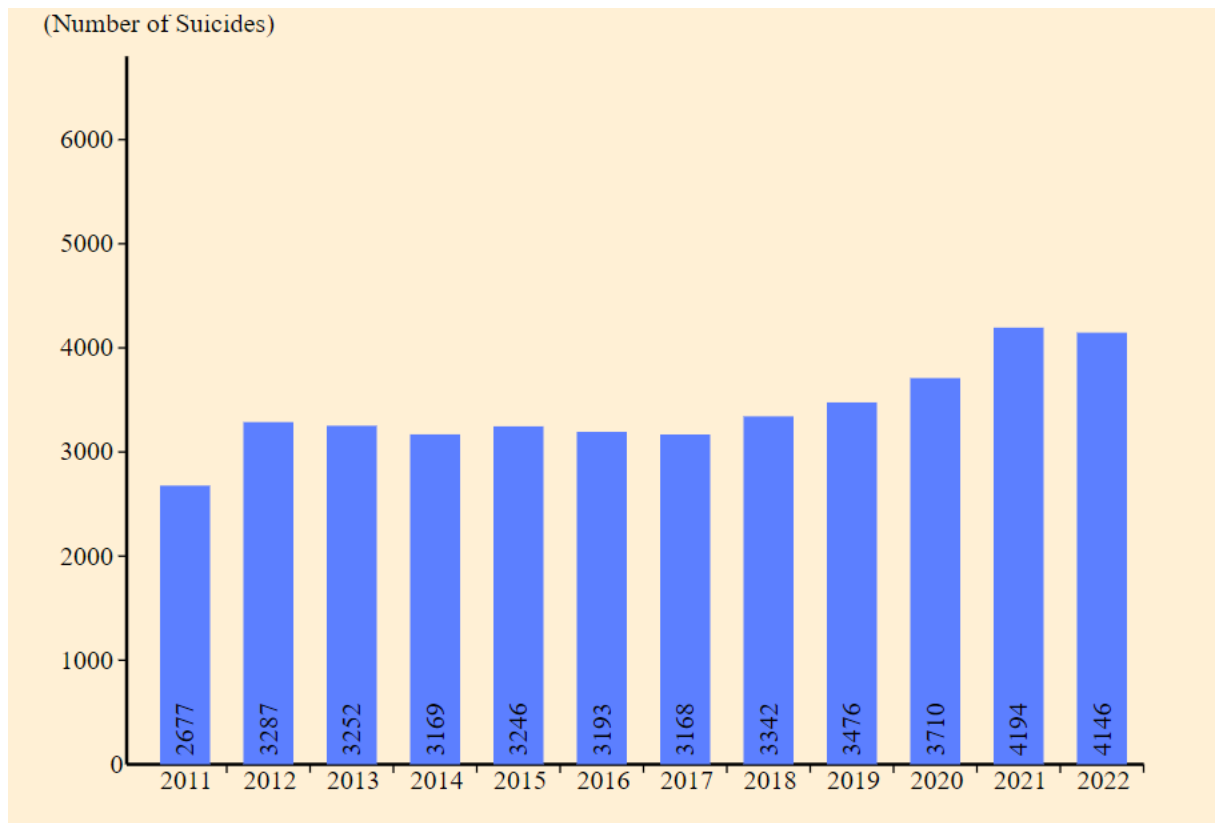
Here I create the ticks in between the labels.

```javascript
const valuetext = document.createElementNS("http://www.w3.org/2000/svg", "text");
const xvalue = (120+(index+1)*20 + index*30)
valuetext.setAttribute("x", (110+(index+1)*20 + index*30)),
valuetext.setAttribute("y", 435),
valuetext.setAttribute("transform", `rotate(270 ${xvalue} 435)`),
valuetext.textContent = year.value,
view.appendChild(valuetext);
```
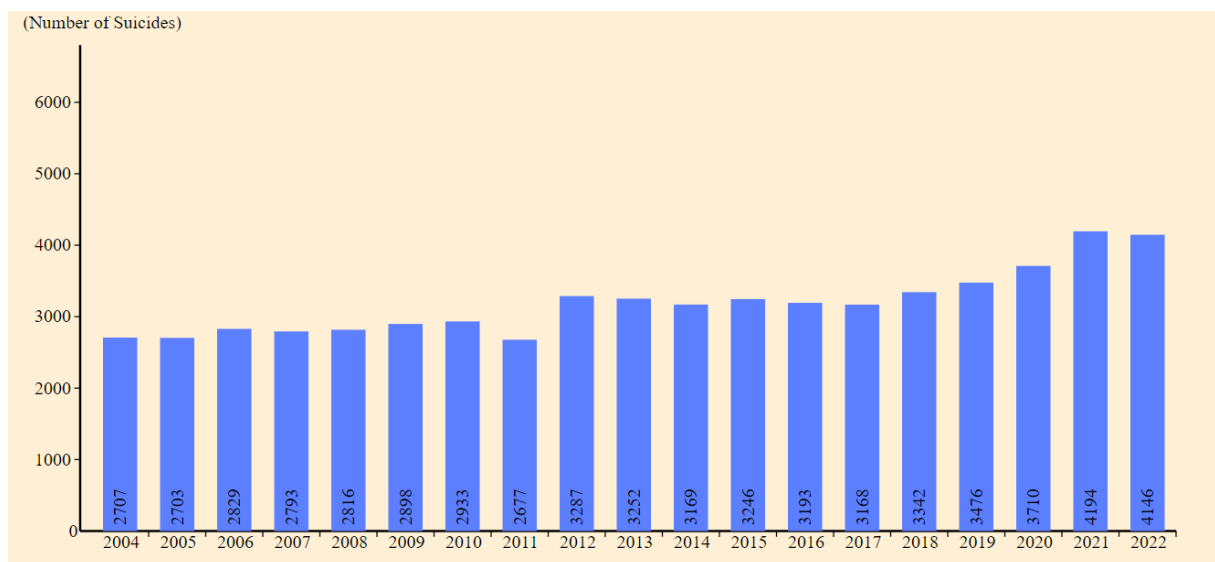
Here I create the texts that appear inside the bars. I use the "transform" attribute to rotate the numbers.

```javascript
yline.setAttribute("x2", 160+index*50);
```

Here I elongate the y-axis for every input.

This here is the visualization I get when I comment out the years 2004-2010.

And this here is the bar chart visualization of the suicide numbers of years

2004-2011.