CS 405 Assignment 1

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**Introduction**

In this assignment, I have visualized a data which is available on the [TUIK website](https://data.tuik.gov.tr/Bulten/Index?p=Olum-ve-Olum-Nedeni-Istatistikleri-2022-49679) using SVG. The data I chose to visualize was *İstatistiki Bölge Birimleri Sınıflaması ve yaş grubuna göre intiharlar, 2002-2022* (Suicides by Statistical Regions and age group, 2002-2022).

**Visualization and Methodology**

To visualize this data, first, I created an html file called *index.html.* I did not create any seperate CSS or JS files, therefore I wrote all my code as inline. The initial phase involved getting the data from TUIK and hard-coding it.

**A screen shot of a computer

Description automatically generated**

Then, I created a svg element inside a div called “chart-container”, and set the width of the SVG to 1100px, and height to 1000px.

**A screen shot of a computer code

Description automatically generated**

Afterwards, I initialized the svg in JS, along with a maximum height value that a bar can take, widths, and gaps between the two bars. The scaleValue here is important to make sure that the number attached to a bar doesn’t exceed the number on the y axis of the chart. So, it helps to scale the height of the value bars according to the height of the chart overall.

A computer screen shot of a code

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Later, I created the axises and the labels for them using “line” and “text” properties. The y Axis label is positioned at (20,-60) to make sure that it doesn’t overlap with the line, and the same for x axis label which is placed at (980, 400)

A screen shot of a computer program

Description automatically generated

For drawing the bar charts, I used a for loop instead of hard-coding each bar. My loop iterates over each value appended to the set *data.* Here, the above-mentioned scaleValue is used to determine the height of the bars. Their position is calculated using the following logic: x axis position is determined by the width of the bar (40) + gap between the bars (20) multiplied by the order of the bar, and added 50 as default to not place the first bar at (0,0) on the graph. The y axis location is fairly simple, the height of the chart (400) minus the height of the bar, so the starting point of the bar is placed at the x axis of the chart.

A computer screen shot of code

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To create the value labels, the same logic above is applied within the same for loop.

A computer screen shot of a program code

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And finally, to add a couple of styling properties like *hover* and to make the chart displayed in the middle of the screen, couple of lines of CSS code was used.

A screen shot of a computer program

Description automatically generated

The outcome of the implementation is the following:

A graph of blue bars

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